

American Artisan

Founded 1880

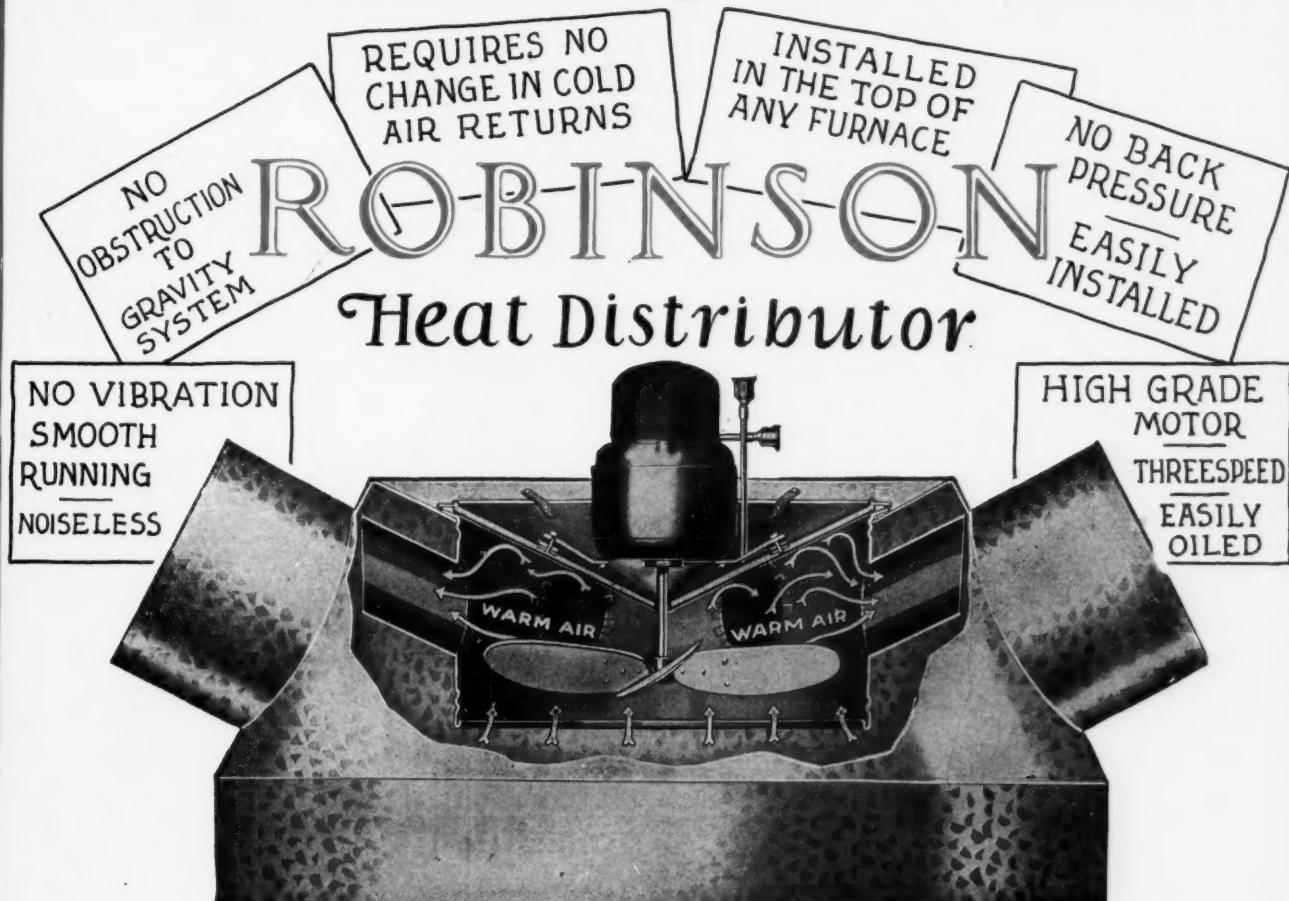
The Warm Air Heating and Sheet Metal Journal

Vol. 37, No. 16

CHICAGO, APRIL 20, 1929

\$2.00 Per Year

Its tremendous sale proves its merit—



Mfg. by The A. H. ROBINSON COMPANY, MASSILLON, OHIO

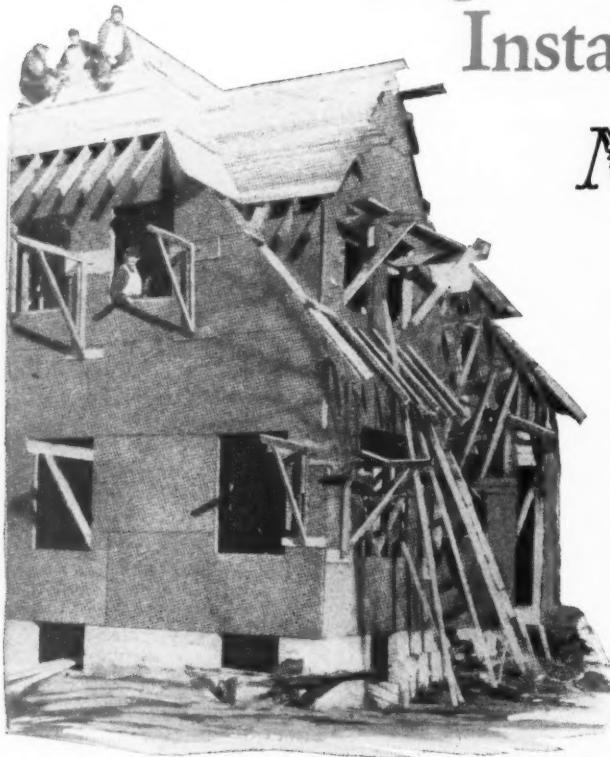
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HOMER FURNACE CO., Coldwater, Michigan

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Annually

*"What's home
without a Homer?"*

*There's Harmony
in Homer Heated
Homes*

NEW houses are going up in your town this spring. Old houses will be remodeled. Both represent opportunities for heating plant sales.

The dealer who handles the furnace that architects and building contractors can honestly recommend because it alone has published ratings, gets the lion's share of this business. Professional builders appreciate the superiority of a heating plant that is built and installed according to the Standard Heating Code. Their recommendations are another reason why Homers sell easier. And Homer comfort and economy make every Homer owner a Homer booster.

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HOMER "GRAND"



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SHOW them how easily the doors swing open and close . . . how perfectly they fit. Explain that no smoke, coal ash or gas can escape around them. You may be sure that this will make them show unusual interest and make them buy quicker.

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Every TRUESTEEL Door Is Hand Ground and Hand Fitted



The
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GUARANTEED
10 YEARS

IT will pay you to investigate the TRUESTEEL Exclusive Franchise.

It is backed by co-operative sales plans which will lead you to Better Profits and more satisfied customers.

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DEALERS EVERY-
WHERE PROFIT
BY MIDLAND
COOPERATION



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It tells you better than words how each TRUESTEEL door is ground to insure a perfect fit and impresses on your mind how each door is fitted by hand.

It takes longer to assemble a TRUESTEEL, but it is the only way to build a "Cleaner Heat" Furnace.

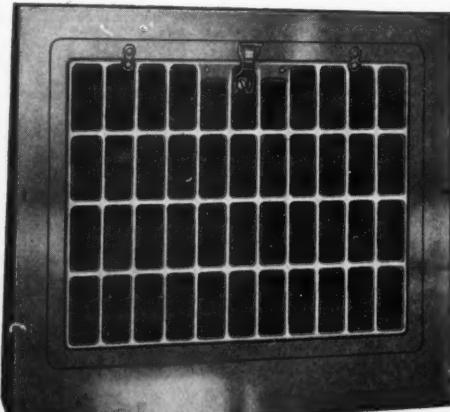
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ALL STEEL •••

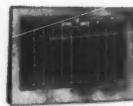


CLEANER HEAT

THE LINE OF NO REGRETS



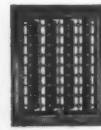
No. 150. Two-Piece Baseboard Register. With fret-work pinched back, this series offers a free air capacity exceptional in a plain lattice design register.



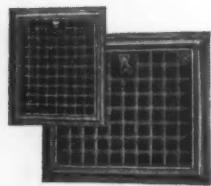
No. 170 Two-Piece Baseboard Register



No. 255 Steel Cold Air Face.



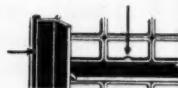
No. 200 Steel Floor Register.



No. 350 Vertical, No. 340 Horizontal Sidewall Registers

EVERY year more architects and builders of "better" homes are specifying warm air heating. Unobtrusive but beautiful registers are being preferred to bleak and bulky radiators. Because of the completeness of the H&C Line, there are registers and cold air faces which will enable you to win those jobs where quality is considered before price; just as there are types to capture a generous share of the competitive installations, too. If you have been denied entrance to the big-money business, turn to H&C goods—they will help to open the door for you. Complete stocks are carried by leading jobbers. Catalog upon request.

A representative stock of all standard items is carried at our Chicago Warehouse.



Heavy braces spotwelded along center of face and at ends.



Patented pinched-back fret-work gives greater strength and larger opening.



Right-angle flange and "sheet-metal" screw save installer time.



Genuine lacquers and natural oak grain finishes.



Specially designed containers protect finish till they're sold.

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Manufactured by THE HART & COOLEY MFG. CO., New Britain, Conn.

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*Every Improvement that
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Duplex grates—one piece radiator—one piece base—the new 1000 Series Sunbeam has every modern refinement. Feed section and ash pit openings are outside of furnace. There is not a single vertical joint inside of the warm-air chamber of this better heating plant.

It Is Easier to Sell the Sunbeam

Judging from the hundreds of heating contractors who are starting to handle the line; and the larger orders being received from established dealers—it is easier to sell Sunbeam Warm-Air Furnaces.

For with the New Sunbeam, 1000 Series, you can offer prospects a furnace with every refinement—with features found on practically any other furnace, plus numerous advantages exclusive with Sunbeam.

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The new Steel furnace, — an innovation in steel furnace design—will be announced shortly. With this heating plant, you will have in a single line a furnace for every requirement.

And the Sunbeam selling and advertising helps—everything to enable you to locate prospects, interest them and finally close the sale—will make you the best known heating man in town!

By returning the coupon, you can obtain the complete Sunbeam story—and obtain a copy of the 1929 edition of the 40-page Heating Manual and Catalog.

Lowest Prices in Sunbeam History

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Largest Makers of Heating Equipment in the World

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WARM-AIR FURNACES



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Heating Manual
is Now Ready*

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Elyria, Ohio

If it is easier to sell the Sunbeam line, we want to examine your proposition. Be sure to send a copy of the new Heating Manual.

Name

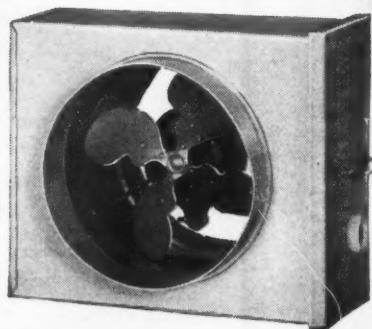
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City and State

A-5

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NOW—you can make every job a forced air installation with the



A-C THERMOSTATICALLY CONTROLLED AUTOMATIC FURNACE FAN

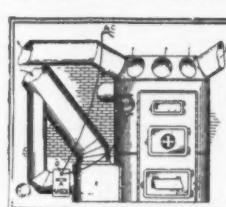
No other furnace fan has this patented feature

The Only One of Its Kind. Thermostatic Control Warm Air Furnace Fan licensed under Re. Pat. No. 15531, can be used only by the A-C Mfg. Co., of Pontiac, Ill.

A-C FORCED AIR EQUIPMENT CONSISTS OF
PATENTED MERCURY CONTROL
HEAT BOOSTER—FOUR BLADE FAN
FAN UNIT—EMERSON MOTOR

COMPLETE TO THE DEALER AT—

\$37⁵⁰ This is our
No. 9 Fan
Unit having
10 inch outlets
and inlets. This number is
the size for the smaller homes.



Write your jobber today for full details or send coupon to—

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A-C MFG. CO., PONTIAC, ILL.
Send me complete details

Name _____

Street Town State

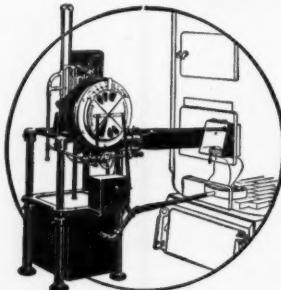
JOBBER'S NAME

ORDER FROM YOUR JOBBER

When writing mention AMERICAN ARTISAN—Thank you!

Extra Profits—Yet No Extra Overhead

Ideal for Warm Air Furnace Installation



Warm Air Furnaces are designed to operate with a continuous coal fire—they will not stand the alternate heating and cooling of intermittent firing. With the McIlvaine the flame burns continuously and moderately. It is not turned on and off. It does not crack the furnace fire pot or open up the joints. It does not force odors out into the circulating system. "The McIlvaine is ideal also for hot water and steam plants."

Write today for complete information concerning the McIlvaine Sales Franchise.

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747 Custer Ave. Dept. A. Evanston, Ill.

McILVAINE
OIL BURNER

Listed as Standard by Underwriters



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FURNACE PIPE
AND FITTINGS

Build better installations and better business

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"American Seal"

FURNACE CEMENT

Roof Cement—Stove Putty
Plumbers Putty

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NEW YORK

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BOOMER

~ that different
and better

STEEL FURNACE

WITH the demand for steel air-tight furnace construction the demand for the Boomer has grown.

It has all the usual qualities of high grade steel furnace design and construction *plus the greatly increased radiating surface of three large cast radiating flues.*

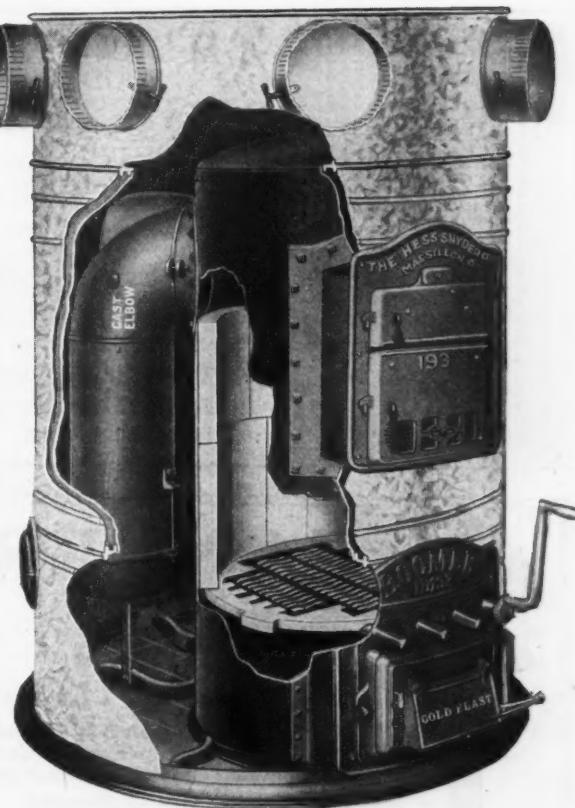
Because of this exclusive Boomer design it is *Soot, Gas and Smoke* consuming, making it more efficient and durable.

With the Boomer Steel Furnace your customers are assured of clean heating because of the scientific design of the radiating flues. The proportions cause even temperatures below the point which usually causes great expansion and contraction of cast iron.

It is the ideal furnace for high grade installation at a price that is favorable to customers.

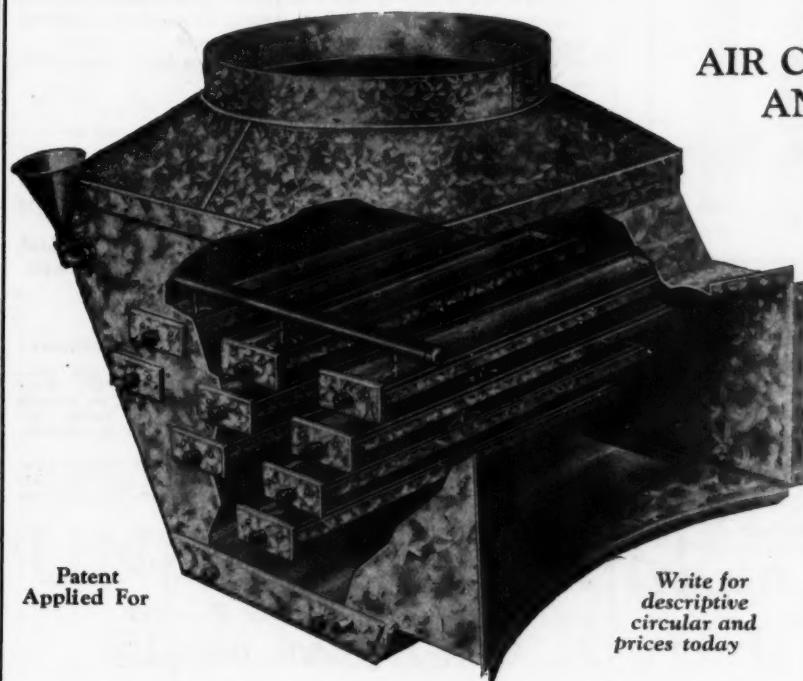
Boomer dealers are having large profitable Boomer Steel Furnace sales.

Write for the **BOOMER** catalog today



THE HESS-SNYDER CO.-MASSILLION.OHIO.

Everybody is asking about this new—



Patent
Applied For

Write for
descriptive
circular and
prices today

COMBINATION
AIR CLEANER—HUMIDIFIER
AND COLD AIR SHOE

DIFFERENT yet so simple
and practical—

Now instead of just a cold air
shoe you can supply your cus-
tomers with an effective AIR
WASHER and HUMIDIFIER.

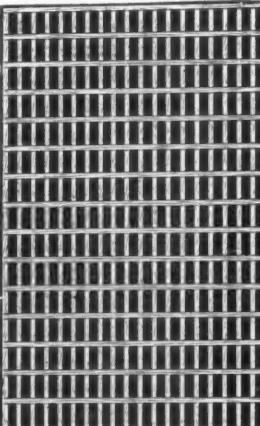
THREE PURPOSES
combined in one unit

The series of pans are so placed
that full unobstructed air pas-
sage is maintained.

Dust and lint in the returning air is caught by the water—at
the same time the air brushing
over the water absorbs the
necessary moisture for healthy
warm air heating.

Everybody is asking about it—
YOU ask us.

F. MEYER & BRO. COMPANY . . . PEORIA, ILL.



**AMERICAN
WOOD
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WHEN you order wood registers be sure of getting the best by buying these famous wood faces—

Known as the finest for over 21 years

They add extra value without extra cost. We make nothing but Wood Registers and only the best.

Write today for catalog and latest price list.

The AMERICAN WOOD REGISTER CO.
Plymouth, Indiana

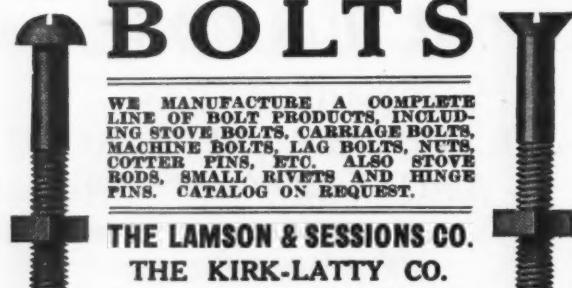


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STOVE
AND
FURNACE
TRIMMINGS**

For Quality and Service use Fanner Trimmings. We operate our own Malleable and Gray Iron Foundries.

Write today for latest illustrated catalog which lists and describes our complete line.

THE FANNER MFG. COMPANY
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WE MANUFACTURE A COMPLETE LINE OF BOLT PRODUCTS, INCLUDING STOVE BOLTS, CARRIAGE BOLTS, MACHINE BOLTS, LAG BOLTS, NUTS, COTTER PINS, ETC. ALSO STOVE RODS, SMALL RIVETS AND HINGE PINS. CATALOG ON REQUEST.

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PATTERNS FOR STOVES AND HEATERS

THE CLEVELAND CASTINGS PATTERN COMPANY
CLEVELAND, OHIO

PATTERNS
FOR STOVES AND HEATERS

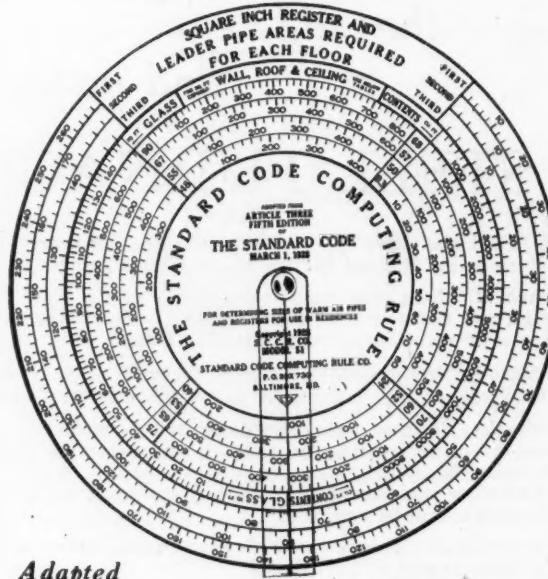
FIRST-CLASS
IN WOOD and IRON
ESTABLISHED 1885

VEDDER PATTERN WORKS TROY, N.Y.

**IRON AND WOOD
STOVE PATTERNS**

QUINCY PATTERN COMPANY
QUINCY, ILLINOIS

The STANDARD CODE Computing Rule



Adapted from Article Three 5th Edition
of the
STANDARD CODE
MARCH 1, 1928
Simple to Operate

THE Computing Rule is not a novelty, but, a well designed mathematical device, for figuring leader pipe and register areas for warm air heating systems. It has proven its accuracy in estimating and has passed the experimental stage. It is operated similar to an Engineer's slide rule.

The complete instructions are easily understood. You can learn to operate the Rule in less than one hour.

Results can be had without a single Division, Multiplication or Addition problem, as required in Article Three of the Standard Code. Not a chance for a mathematical error.

"Remember, you do not have to refer to a lot of loose parts or awkward tables."

Simplifies accurate estimating.

Handy Pocket Size

RULES are $5\frac{1}{2}$ inches in diameter— $\frac{1}{8}$ inch thick. Has an upper and lower revolving disc with a hairline indicating arm.

It is made of extra heavy and specially prepared celluloid, which reduces shrinkage and warping to a minimum. It is washable and unbreakable.

Can be carried comfortably in your pocket.

Here Is What The Computing Rule Will Determine:

- 1 The warm air pipe and register areas for First, Second and Third floor rooms.
- 2 The areas necessary for 760 inside temperature when the outside temperatures are ZERO, 10, 20 and 30 degrees ABOVE or BELOW zero.
- 3 The areas from the Contents, Glass, Wall, Roof and Ceiling. The factors as covered in Table "A" are represented in accurate form.
- 4 The areas for rooms having One, One and One-half and Two air changes per hour.
- 5 The Unusual Exposure requirements as the 10% for East and West and 15% for Northeast, North and Northwest rooms.

"Absolute Correct Results"

Price, \$3.00—Postpaid

AMERICAN ARTISAN
620 South Michigan Avenue
CHICAGO, ILLINOIS



In the largest
and finest buildings
this device provides positive damper control

AUTHORITIES on heating and ventilation concede the Hyro "Unxld" Damper Quadrant to be the simplest, neatest and most efficient device yet designed for regulating dampers in hot and cold air ducts, furnaces, smoke pipes, blower and dust arrester systems, etc. Its use in the largest and finest buildings throughout the country is proof of this.

Hyro "Unxld" Damper Quadrants are generally preferred (1) because by simply tightening the wing nut the damper is locked in any desired position, assuring absolute control of the passage of air; (2) because the graduated flange at the bottom of the Quadrant tells at a glance the exact position of the damper in the duct; (3) because they make a neat installation.

And sheet metal workers and furnace men like to use them (1) because they are easily and quickly attached to flat or curved surfaces; (2) because the handle can be removed at any time, permitting the damper to be removed from the duct without ripping out the entire installation; (3) because they cost less than most makeshift devices that they might make themselves.

Made in five sizes for regulating dampers from the smallest to the largest.

More than 650 jobbers in all parts of the country carry them in stock. Write for full information.

HYRO MANUFACTURING CO., Inc.

Sheet Metal Workers' Tools
and Hardware Specialties

202 VARICK STREET  NEW YORK

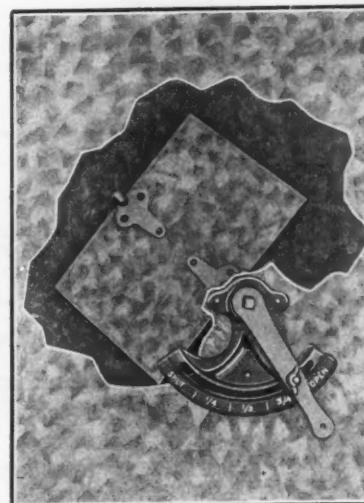
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Aikenhead Hardware, Limited, Toronto 2, Canada

**HYRO
"UNXLD"
DAMPER QUADRANT**



Patented December 23, 1919—
No. 1,326,096



*View of a Quadrant installation
with part of the duct cut away to
show the damper.*

**HYRO
"UNXLD" DAMPER QUADRANTS
and DAMPER ACCESSORIES**
Save Time and Labor

Founded 1880

Published to Promote
Better
Warm Air Heating
and
Sheet Metal Work

American Artisan
The Warm Air Heating and Sheet Metal Journal

Yearly Subscription Price:
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Table of Contents

Page	Page		
Illinois Sheet Metal Contractors Meet in Annual Session at Peoria, Illinois, by J. F. Johnson	113	Baltimore Women's Auxiliary Perfects Plans for National Sheet Metal Convention Entertainmeent	125
Biersach Points Out Value of Trade Paper Reading at Illinois Convention.....	117	Midland Furnace Company Has Important Addition to Warm Air Literature.....	125
Appearance of Window and Salesroom Big Factor in Successful Merchandising of Warm Air Heating Equipment.....	120	Tuttle & Bailey Moves Chicago Sales Office..	125
New Literature Out on How to Ground Galvanized Roof	123	Oil Burner Association Meets in New York City	125
Tee on Tapered Pipe Pattern Construction Offers Opportunity for Mental Gymnastics, by O. W. Kothe.....	124	Wisconsin Sheet Metal Hold Meeting.....	125
		Indianapolis Home Show Awakens Interest in Warm Air Heating.....	126
		Random Notes and Sketches, by Sidney Arnold	127
		Markets	128

JOY IN LIFE DEFINED

A great deal of the joy of life consists in doing perfectly, or at least to the best of one's ability, everything which he attempts to do.

There is a sense of satisfaction, a pride in surveying such a work—a work which is rounded, full, exact, complete in all its parts—which the superficial man, who leaves his work in a slovenly, slipshod, half-finished condition, can never know.

It is this conscientious completeness which turns work into art. The smallest thing, well done, becomes artistic.—William Mathews.



A Combined Service for The Sheet Metal Shop

Concentrate Purchases through this One Source
and Save Time and Money

SPECIAL heated storerooms protect the quality and finish of the hundreds of tons of sheets carried at Ryerson plants, ready for Immediate Shipment to the sheet metal shops. Whether you need a bundle or a ton, plain galvanized or special rust resisting sheets, your order will have our personal attention and will be delivered at once

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Use this combined service—let Ryerson carry your stocks, subject to immediate delivery.

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Partition Steel

Electrical
Tool Steel
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Armco Ingot Iron

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Corrugated Armco
Corrugated Steel

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Plants: Chicago, Milwaukee, St. Louis, Cincinnati, Detroit, Cleveland, Buffalo, Boston, Jersey City
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Denver, Los Angeles, San Francisco

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Say you saw it in AMERICAN ARTISAN—Thank you!

RIVETED PLUS WELDED

The
Highest
Grade
Steel
Furnace
Made

Any
place
you
put
your
finger
on
the
Weir
you
find
extra
quality



WE believe that it is possible for a steel furnace drum that is only riveted and calked to remain tight for many years. Many old Weirs which were only riveted and calked are still tight and giving good clean heating service.

We also believe that it is possible for a drum that is welded only to be strong as well as airtight provided the welding is expertly executed as is the case in Weir welding.

We believe, however, that the Weir being both *riveted and welded* offers the maximum in strong and airtight construction.

It's double value—it's a guarantee to your customers that the Weir is built to give the highest type of care free heating service for the longest period of time.

It's just one instance of Weir *extra* quality.

When you study Weir construction bit by bit you'll see that the extra quality idea is maintained throughout—you'll see also why your customers will prefer it.

*May we send you a copy of
the WEIR "Book of Facts"?*

**THE MEYER FURNACE CO.
PEORIA-ILLINOIS**

**The
Original
Steel Furnace
Now In Its
Forty-Seventh
Year**

WEIR

**Made by
The Founders
of the
Steel
Furnace
Industry**



American Artisan

The Warm Air Heating and Sheet Metal Journal



Vol. 97

CHICAGO, APRIL 20, 1929

No. 16

Illinois Sheet Metal Contractors Get Low Down on Overhead and Standard Code Application

Joint Session of Contractors and Travelers Auxiliary Paves Way for Better Exchange of Ideas

By J. F. JOHNSON

THE KEYNOTE of the Sixteenth Annual Convention of the Illinois Sheet Metal Contractors' Association, held in Peoria April 16, 17 and 18, was the voicing of warning that the sheet metal contractors and warm air heating men must realize the present day method of selling merchandise and service and make full use of information and coöperation available to carry out better business policies or see their business fall in other channels.

George Harms, as a Director of the National Association of Sheet Metal Contractors, opened the convention. He complimented Illinois as being a strong and loyal member of the national association. He introduced the mayor of Peoria, Louis Mueller, who welcomed the convention delegates on behalf of the city of Peoria.

Mayor Mueller had his bodyguard of four fine looking police officers with him, and when this squad entered the room Rudy Jobst starting pointing to several Auxiliary men, and for a few minutes it looked like the house was pinched.

The officers, however, were under the mayor's orders and not Rudy's, so they rendered several songs, which made a big hit and put pep into the opening of the session.

Fisher Speaks on Vocational Training

President Rudy Jobst made a response to the mayor's welcome and

then introduced E. C. "Jack" Fisher, Superintendent, Peoria Public Schools, who spoke on the subject, "Vocational Training and Education." Mr. Fisher stated that with the help of the Peoria Sheet Metal Contractors' Association, the Sheet Metal Course in Vocational Training in Peoria Public School had progressed satisfactorily in the three years of its existence. Mr. Fisher told how the contractors had come to him with the request for such a course and of their interest and co-operation.

A large display of sheet metal work done by the students was on exhibit in the convention hall, and after the meeting the men examined the pieces.

All of the work shown was executed entirely by the students, designed and laid out, as well as fabricated.

Mr. Fisher stressed this point as being important. Vocational training, he said, is complete training, not only fitting the boy or girl to do the work, but teaching them how to originate work and showing them why they must know all about it.

Vocational training helps young men and women to find themselves—opens the way for them to find the work they like best and for which they are best adapted.

"This is a great economic feature," Mr. Fisher stated, "as it saves years of trial on the part of both workers and industry. Misfits in

industry cause failures, and in the sheet metal industry it means constant turnover of many men who are not interested or adapted to the work."

"Many parents," he said, "desire to make life too easy for their children. Work must be shown to be honorable and explained as necessary as the only stepping stone to a successful future.

"Statistics show," he cited, "that 35 per cent of all people in prison are under 18 years of age," and he charged that lack of vocational training for young folks is largely responsible.

Quoting Roger Babson, Mr. Fisher stated that 85 per cent of the present day captains of industry never graduated from college, but that they learned to work and trained for their success.

Vocational training is right direction and is greatly needed, as figures show that from the fifth grade to college 98 per cent of the students fall out.

"Part-time education is better than full time extension education," Mr. Fisher contended, "as it causes work and study together which make better workers and better students."

The speaker gave figures which proved that part time students earned more money per year in the city of Milwaukee than the cost of the entire educational system.

The great need for vocational

training was further advanced by Mr. Fisher by his quoting of statistics which show that of the entire population of this country, 92 per cent are engaged in gainful work with their hands and only 10 per cent of this number are trained workers.

Tuesday Afternoon

Following the reading of minutes of previous meeting by Secretary Ralph Poe, the President, Rudy Jobst, gave his annual address. He

contact with builders, architects and the public.

Mr. Jobst contended that many contractors were afraid of the architects. "He needs us as much as we need him," he claimed. He further stated that the reason many architects failed to specify metal cornices was because they did not know how to specify them, and the sheet metal contractor is not helping him, whereas the competing industries are on the job to furnish all details

cases it was, and in the sheet metal business it could best be so based.

Other questions produced these answers: Salary of proprietor or manager should be included in overhead. Proprietor should obtain a salary in proportion to his time and value as a business producer, plus a fair profit on his investment.

George Harms strongly urged definite action on a plan of accounting which will help produce percentages from which an average figure for overhead might be obtained. While the figures thus obtained could not be used by any contractor, it would show him that he must find his overhead figure.

A committee consisting of Joe Pearson, Jack Stowell and Ralph Poe was instructed to report on a plan of uniform accounting.

Question Box Produces Interest

Following the discussion, Mr. Harms was called on to take charge of the Question Box.

Many interesting and instructive questions and answers were voiced. Some of the questions were:

"Is there any reason why any contractor should take a job unless he can make a direct profit?"

"What can be done in regard to bid peddling?"

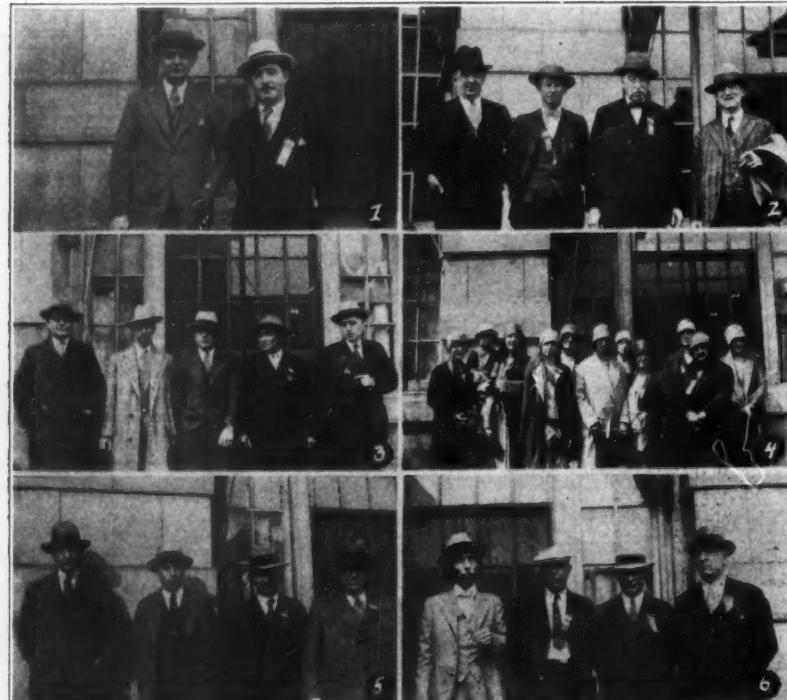
"Why not have the Association adopt a slogan 'Our first figure our last'?"

Wednesday Morning

Wednesday morning was the warm air heating session, and the entire morning was given over to Jack Stowell, Special Representative of the Better Business Committee of the National Warm Air Heating Association.

Jack hails from Aurora, and as he is a member of the Illinois Association, he was now talking to his own organization after some fifteen talks to various other conventions throughout the country.

He gave his blackboard talk on the Application of the Standard Code, which starts with a review of the work of the National Warm Air Heating Association since its inception on through the development of the Code down to its practical use



1. T. Reid Mackin and Dave Farquhar. 2. Fred Graeff, Jim Barrett, G. J. George and R. T. Hanisch. 3. Wm. Grannis, G. W. Burgess, T. H. Maddox, E. Hardten and Oliver Ingledew. 4. Mrs. Wm. P. Laffin, Billy Laffin, Etta Cohn, Mrs. Jack Sauer, Mrs. H. E. Williams, Mrs. Wm. Bertelsen, Mrs. C. A. Chirico, Mrs. A. P. Halm, Mrs. Ralph Poe and Mrs. Henry Bauman. 5. Frank Mehrings, Jack Stowell, Paul L. Biersach and Rudy Jobst. 6. L. S. Rysden, Walter A. Sargent, Harvey Manny and J. F. Grove

stressed the fact that while more sheet metal was being used today, it was going out in different channels than those used by the sheet metal contractor. However, much fault could be found with the industry itself, he said, because he believed the sheet metal contractor was letting competition get the business too easy.

"We can't sit in our offices and wait for business to come to us," he said. He urged more soliciting, more advertising, more personal

for specifying their products.

Following the President's address, J. G. Dingle, C. P. A. of Ottawa, Illinois, spoke on the subject of Overhead and Accounting. Mr. Dingle's talk will be published in full in a later issue.

Following the talk, many questions were asked and Mr. Dingle gave very good and clearly understood answers.

Is it practical to base overhead on labor instead of volume? was one question. Mr. Dingle said in many

and application today by leading warm air furnace installers.

Jack knows all the Illinois boys and he worked harder than ever to show them how easy it is to use the Standard Code. He laid great stress on the merchandising and selling end of warm air heating.

"This is the big thing to do at once," he said, and pointed to the fact that the public in buying automobiles, radios, washing machines, and other things were buying and gladly paying for *comfort* and *convenience*, and it was up to the warm air heating contractor to get next to himself and use the same tactics and succeed as he rightly should.

"Sell comfort and perfect healthful heating," he said, and illustrated by saying the automobile man sells easy riding and transportation. The public is interested in mechanical details, but only if they know what they will do and how they contribute to convenience or better heating results.

National President Speaks on Value of Trade Paper Reading

The afternoon of the second day was opened by a talk by the President of the National Association of Sheet Metal Contractors, Paul L. Biersach of Milwaukee.

Mr. Biersach's talk appears on page 117 of this issue.

Following the National President's address, the Better Cooperation Joint Meeting of the Contractors' Association and the Travelers' Auxiliary was announced by President Rudy Jobst.

Frank L. Fraser of the Auxiliary presided. Mr. Fraser outlined the purposes of the request for the joint meeting and thanked the contractors for the privilege extended the Auxiliary to help cooperate better by a friendly exchange of ideas.

He called on Harvey Manny, one of the organizers of the Auxiliary, to tell about the purposes and aims of the Auxiliary.

Mr. Manny said that it originated in the first place to equalize the burden and responsibilities of entertaining the Association members and friends. The purposes have

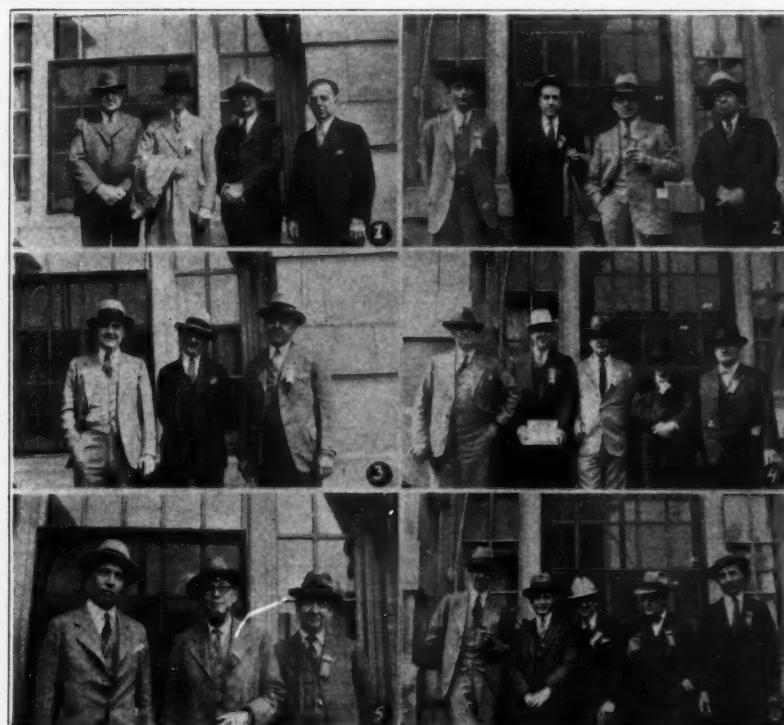
grown and the Auxiliary has helped build the Association and the Association has helped build the Auxiliary.

The meeting brought out the point that the contractors appreciated the help the salesmen give them by suggestion of stunts used in other towns—advertising, window displays, etc.—and the salesmen were equally benefited by the contractors' tips on what people in different localities are buying and demanding in products or materials.

tors how to accept the salesmen's helps.

This joint meeting was voted a big success and should be better next year. A cub salesman, after listening to this meeting, would have plenty of courage, enthusiasm and inspiration after hearing all the fine things the contractors said about sales representatives.

In the evening the contractors and their friends were guests of the Travelers' Auxiliary at a banquet and dinner dance in the Gold Room



1. Ray Taylor, Bill Laffin, Roy Harrison and Lee Gillespie. 2. Joe Walters, Ralph Poe, C. L. Radtke and Howard Williams. 3. Fred Heads, A. A. Glessner and Frank L. Fraser. 4. W. R. Newgent, A. P. Halm, George W. Bock, Herb. Symonds and Jules Gerock, Jr. 5. J. V. Arnhorst, John C. Neuman and C. H. Bolinger. 6. Jay Barton, W. A. Destelhorst, L. C. Leimkuehler, J. C. Dingle and J. H. Pearson

Rudy Jobst made a big hit with his jovial manner of presenting reasons why some contractors and some salesmen misunderstood each other.

The more questions that came out of the box the peppier the meeting got, and the salesmen were quick to show constructive ideas and the contractors glad to partake in the exchange of thoughts.

While situations were frankly voiced, it was a love feast indeed and the contractors were in the majority in telling their fellow contrac-

of the Jefferson Hotel, with two hundred present.

Introductions of National, State and Local Association officers were made by the Auxiliary President, Frank L. Fraser, and then, with the help of Dave Farquhar as song leader and the orchestra, the assembled guests and hosts sang between the serving of a fine meal.

Each lady was presented with a Japanese tea set consisting of a pot and six cups, a souvenir of the Travelers' Auxiliary.

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banquet consisted of vocal, piano and jazz band selections, and some very fine toe dancing by two tots, Miss Margaret Lee Bradley and Lucille Anna Sauer, the latter being the daughter of Jack Sauer, who was in charge of the entertainment program.

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*Methods Employed with Success
in Other Lines of Endeavor*

By PAUL L. BIERSACH*

HERE is one thing on which all who are loyal to the industry from which they derive their success can unite, and that is to show its best production, so as to create a public interest. Some of the things that should be done have been so persistently and frequently offered that it seems useless to present them again.

That very activity, however, is like plowing the ground, harrowing it, cultivating it, and rolling it before the final seeding is made from which the harvest is reaped. The farmer who is most successful is never discouraged in having to use the hoe after he has plowed, harrowed and cultivated it; the use of the hoe will loosen the soil and insure that the seed will take so that the harvest may eventually be reaped.

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If in the regular association there was handed up to the desk at every meeting night a list of the things which the sheet metal contractor should read, many who suffer from the lack of information which their papers would afford them would go home and glean it and use for providing better for their families, for providing better work for their customers, and better prestige and reputation for themselves and for a general uplift to the industry that would be for reaching good.

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the writing of such letters? Would it be beneficial to the industry or not? Then if somebody in the office cuts these pages out from the paper and files them under appropriate readings where they could be secured when needed, would it not save time to some fellow in the shop who is calling upon somebody to do a line of work with which he is not specially familiar? If he could go into the file and pull out 25 or 100 clippings and go over them and refresh his memory or qualify himself for the special work he is called on to do, would that not be better than having all the clippings in a file so that it is impossible to find anything?

That is how to use your trade papers and magazines, and what to do with them after they have been read and used so that their contents will be available for reference when needed.

This, so far, has all been for the man. Now how about doing something for the man and the industry at the same time? It has been frequently suggested that photographs are indispensable to a progressive business. All the larger shops in the larger cities have photographs of their fine work. They have photographs of the buildings. They have photographs of the cornices, skylights, domes and other interesting features of sheet metal work which they have done.

They have photographs of the blower-piping that they have installed for the heating and ventilating of a large factory building. They have photographs in the shop where the piping takes away the dust from a host of machines or removes fumes from the vats that are used in a manufacturing establishment, but too many of the trade have no photographs whatever.

Isn't it time that the trade generally began collecting photographs that would convince the architect and his client when they are displayed? The question was asked, "What would be the effect in sheet metal contracting circles in the United States if more pictures were shown of good work? Would it be

inspiring, would it lift some out of discouragement, would architects and builders be impressed, would it help the industry, would anybody be hurt by it, would such pictures help the architects and builders to use more sheet metal on their buildings, would the information that would be derived in asking these questions help you when working on a hard customer by giving you a better command of your resources to convince him, would it assist you in selling a prospective customer to show him that his work could be taken care of because your work was sufficiently good and original to warrant its description and illustration in your leading trade papers?"

That questionnaire has been widely used and attracted a good deal of attention in the trade, but it has brought the answers or the information that could have been used to a very good advantage for the benefit of the whole trade. Would it be a good idea if the association headquarters had a file in which the clippings of the trade papers were gathered for the benefit of the whole association? Would there be any benefit in it if the local association headquarters had photographs of various kinds of sheet metal work to hang on its walls and had portfolios containing pictures of sheet metal work done by its members that could be utilized by the members for selling to architects, builders, property owners or others? Then would it not be a good idea to start doing some of these things that were suggested?

Doubtless your association has had various speakers come before it to discuss different subjects, but have you ever invited some man from the bank to tell something of what the business man must do to get money to discount his bills and to finance a big piece of work? It would be worth while to hear the right kind of banking officer discuss this matter for the benefit of the tradesmen in whom he had a kindly interest and a desire for their general welfare. This is only a suggestion that the school teacher, the minister, the engineer in some in-

dustrial plant, or some efficiency expert might well talk for a half an hour at some meetings of the association to show the members something of the trend of the practice in other fields.

Have you ever appointed a committee for your association to sit with the Chamber of Commerce of your city or with the Board of Trade or other organizations, so as to know what is going on and bring back to you the best thoughts of the leading business men in your town?

There is a very positive advantage of tradesmen meeting together. They soon find out what each other knows, how they can help each other and how without each other's help many successes that they achieve could be enjoyed. The sooner that the tradesmen in any center make a practice of being courteous and agreeable to each other, the sooner they will all enjoy a greater measure of prosperity. The narrow-minded attitude that was characteristic of former days has no place in this age of co-operative spirit, when there is a feeling that we must help one another and co-operate.

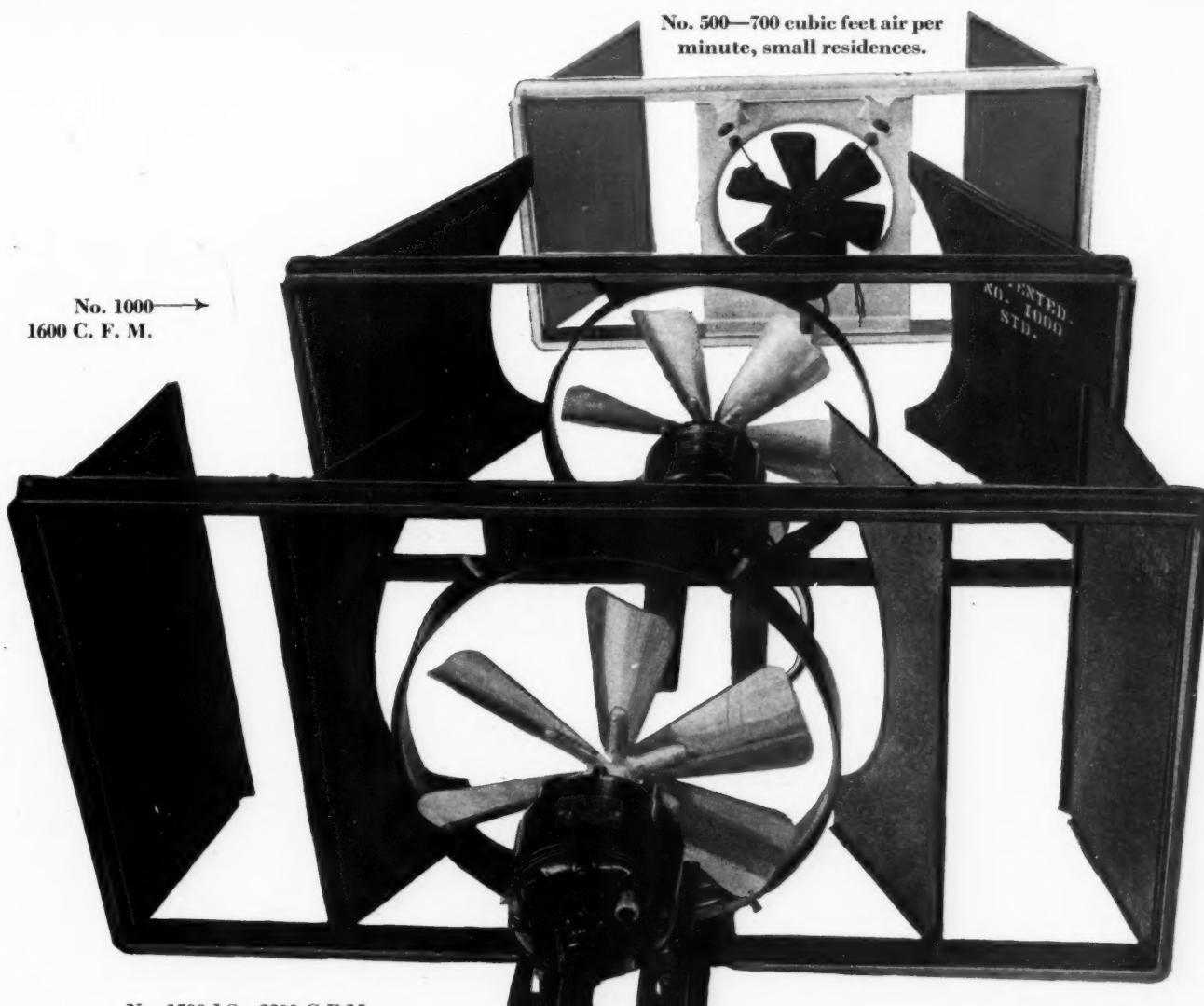
If the highest functions of our lives are realized, it simply means to put into practice the Golden Rule, and it is a matter of observation that the Golden Rule, practiced by the man who is ambitious and honest, leads to both earthly prosperity and a relation with his fellowmen that is equally invaluable to the enjoyment of life. At the beginning of this article is the statement, "Here are some of the things to do," and the question, "Will you start doing some of them?" It seems that they will make just as good a closing as an opening. Here are sufficient specifications to start the drive.

Who Makes "Utility" Warm Air Damper Clip and Tail?

To AMERICAN ARTISAN:

Will you kindly give us the name of the company who manufactures a warm air damper clip and tail under the trade name of "Utility"?

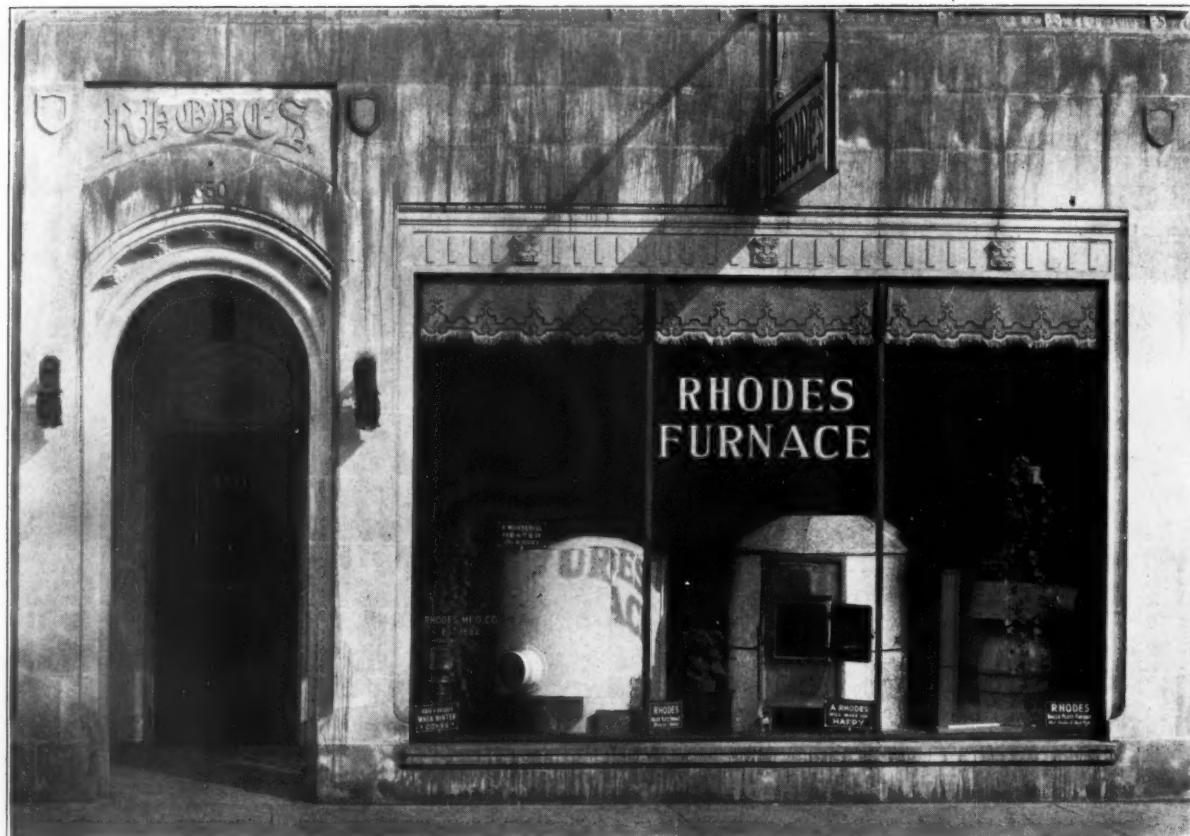
MAC-ROY SUPPLY CO.



NO fan without the louvers *can be* a FORCED AIR FAN—because the louvers *alone* make it possible to *build up* positive pressure—and positive pressure is what makes FORCED AIR.

THE WARM AIR FURNACE FAN COMPANY
6521 Cedar Avenue, Cleveland, Ohio

MILES AUTOMATIC
FURNACE FAN



Exterior View of the Remodeled Warm Air Heating Establishment of the Rhodes Manufacturing Company, 350 East Division Avenue, Grand Rapids, Michigan. This Is One of the Finest and Most Modern Furnace Show Rooms in the Country

THE TREND today in the warm air heating industry is toward the greater use of scientific merchandising methods. Furnace installers are beginning to realize that if they are to maintain proper growth in their businesses, they must bring their places of business up to date; they must arrange window displays that will attract attention, and they must have representative looking showrooms, where folks may come and talk over their heating requirements. In a word, they must bring their places of business out on the main street and so arrange them that they will have an equal chance in bidding for public attention.

The accompanying illustrations are of the interior and exterior of the Rhodes Manufacturing Company showrooms, 350 East Division Street, Grand Rapids, Michigan.

Harry Rhodes, the head of this progressive business, who is an ex-president of the Michigan Sheet Metal and Roofing Contractors' As-

sociation and a member of the Grand Rapids Warm Air Heating Association, has some very advanced ideas about selling warm air

ous yourself and have a good looking shop and display room, people get the idea that you must "know your stuff" and they will give you their business.

In addition to being a good merchandiser, Harry Rhodes is also an opportunist. He believes in finding an opportunity to improve himself in everything. He always has had a very representative looking shop and display room, but some time ago the city authorities of Grand Rapids decided that in order to make room for the ever-increasing traffic flowing through its streets, some of the main thoroughfares would have to be widened. As was to be expected from a man as progressive as Harry Rhodes is, his shop and display rooms happened to be located on one of these main streets that were to be widened.

Since his shop had to be remodeled anyway, on account of the moving of the sidewalks back, Harry took this opportunity to bring his shop, his salesroom and his window

Harry Rhodes is a past president of the Michigan Sheet Metal & Roofing Contractors' Association, a very active member of the Grand Rapids Warm Air Heating Association, a thorough-going business man in every respect. The fact that he has seen fit to go to considerable expense in remodeling his warm air heating establishment should go a long way toward showing other heating men the advisability of such action.

heating to the public. In the first place he believes that to put on a good front is half the battle, because after all few people do more than make a cursory examination into any business with which they do business. If you look prosper-

Appearance of Window and Salesroom Big Factor in Successful Merchandising of Warm Air Heating Equipment

Harry Rhodes, One Man
Who Actually Believes It

BY GEORGE DUERR

display thoroughly up to date. How well he succeeded can be judged by viewing the accompanying illustrations.

This remodeling process cost Harry considerable money, but he

is a man of courage. He knows that the gaining of the good will of the Grand Rapids public is worth more to his business than the price of the remodeling job. Therein lies the difference between Harry

Rhodes and men of his stamp and men who have given no attention whatsoever to the appearance of their business places. Harry wants the people of his city to give his place of business the same consid-



Interior View of Display Room of the Rhodes Manufacturing Company, Grand Rapids, Michigan. Note How Provision Has Been Made for the Convenience and Comfort of the Prospective Customers and the Little Homey Touches the Place Has



BRANCH OFFICE AND WAREHOUSE OF THE J. M. & L. A. OSBORN CO. AT DETROIT, MICH.
WHO'S SLOGAN IS — "EVERYTHING USED IN SHEET METAL WORK"

ANNOUNCEMENT

ON Monday, April 1st, we opened a Branch Office and warehouse with a complete line of sheet metal contractors supplies, at 6578 Gratiot Avenue—

— DETROIT —

It is our ambition to cooperate with Architects and Engineers and to better serve their Sheet Metal Contractors.

PHONE WHITTIER 0830 "TRY US FOR SERVICE"

THE J. M. & L. A.
OSBORN CO.
DETROIT — CLEVELAND — BUFFALO



A Second View of the Office Interior Showing Lighting System, Wall and Ceiling Decorations

eration that they do any other representative merchandising establishment in the city and he knows that in order to get that kind of consideration he has got to make a bid for it.

Regardless of how good you do your work, you have got to attract folks to your place of business and get them to engage your services before they will give you an opportunity to show them the kind of work you do. And having a representative place of business will go a long way toward attracting the right kind of customers into your store.

In the arrangement of this new store Harry has had due regard to proper lighting, display arrangement and convenience of the prospective customers. Note the ornate arrangement of the furniture in the salesroom itself; the seat covers that can be removed for laundering so

that persons can seat themselves without fear of soiling their clothes.

Note the use of plants to add to the attractiveness of the window display.

There is no use concealing the fact that a warm air heater in itself is a very prosaic subject to display. The fact that so few warm air furnace installers are able to make a good display proves this. But in this respect Harry has succeeded even beyond his own expectations.

It is to be hoped that every warm air furnace installer who wishes to progress in the warm air heating industry will use this and other representative window and showroom displays that have appeared from time to time in *AMERICAN ARTISAN* to assist them in bringing this phase of their merchandising equipment up to a higher standard. It takes considerable courage to do it, but

we know this is not lacking in the warm air heating industry.

New Literature Out On How to Ground Galvanized Roof

The National Association of Flat Rolled Steel Manufacturers, Terminal Tower Building, Cleveland, Ohio, has recently issued a new piece of literature on how to ground a galvanized roof against lightning.

The information given is in considerable detail and is well illustrated so that the sheet metal contractor can see at a glance just what is meant as the explanation progresses.

Sheet metal contractors who are not thoroughly familiar with this type of work or who wish to refresh their memories on it should not hesitate to write to the National Association of Flat Rolled Steel Manufacturers, asking for this literature.

Tee on Tapered Pipe Pattern Construction Offers Opportunity for Mental Gymnastics

C. J. Swanson, Milwaukee, Wisconsin, Asks for Information

By O. W. KOTHE, Principal, St. Louis Technical Institute

RESPONDING to the inquiry of C. J. Swanson, Milwaukee, Wisconsin, I submit the accompanying drawing showing a solution. His sketch shows the tee on an angle of about 60 degrees, and so I have taken the liberty to bend it over further to 30 degrees.

The method we show here for arriving at the miter line is not exactly correct geometrically, but for sheet metal it is close enough, as most tradesmen use this method, and it brings them close enough. To

arrive at the correct miter line, the parabola line treatment must be followed, which on large work requires extensive projection and is much more complicated.

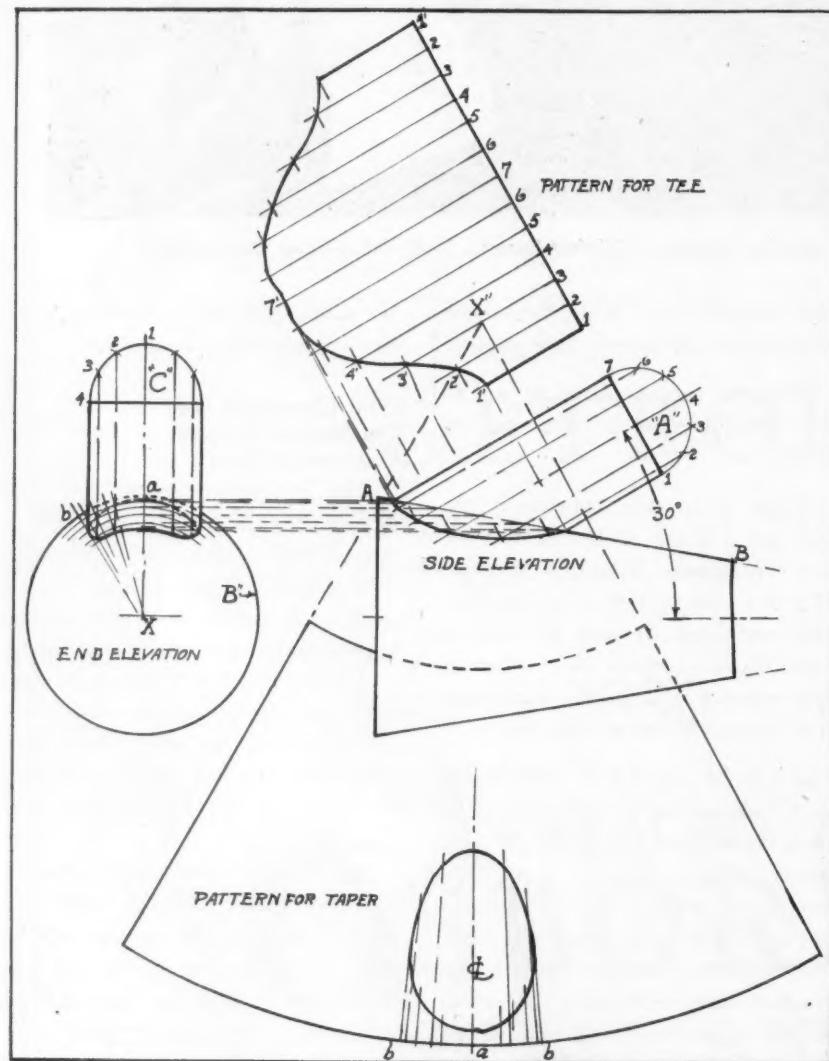
We first draw the side elevation of taper; the large end should be made to accommodate the area of the small main as well as the branch pipe. In our case we have exaggerated the large end to separate the lines more pronouncedly. Next place the tee as near the large end of taper as convenient, and incline

to any angle desired. Describe section "A," and divide in any number of equal parts, and project lines into the line A-B so they are parallel with the tee. After this draw the end elevation.

Where each of the lines from "A" cross line A-B, project them over to X-a, and then use X as center, strike arcs as shown. Next reproduce section "A" with all its points as "C," and drop lines to cross these arcs in "B" of similar number. This enables drawing the end view of opening where tee fits over and when we project lines back into side elevation from each of these points, we cut off the side elevation lines, and thereby establish the points for drawing the miter line.

To develop the pattern for tee, extend the line 1-7 of elevation, as 1-1', and on it set off the girth spaces from "A," and draw stretch-out lines. Then from each point of miter line, square out lines, to cross those in pattern of similar number, as 1'-2'-3', etc., to 7'. A line is then sketched through all points and that provides the outline for pattern.

For single fittings, the opening is usually cut out after the tee is formed up, which allows certain adjustments and so the pattern for taper is described the same as a funnel, which requires no additional comment. Where the opening is desired, radial lines are passed through the intersections in the end elevation, and extended to the outline, as a-b. These spaces are picked and set on the lower girth line, as a-b' in pattern. With the aid of these lines and the miter intersections in side elevation, the outline is determined. Edges for assembling must be allowed extra.



Patterns for a Tee on a Taper Pipe

Baltimore Women's Auxiliary Perfects Plans for National Convention Entertainment

The Women's Auxiliary of the Baltimore Sheet Metal Contractors' Association held a business meeting in the assembly room of the Baltimore Association of Commerce on April 8th, Mrs. P. H. Lenderking, President, in charge.

Matters concerned with the work which the Baltimore women are doing to entertain the women attending the national convention were taken up and discussed.

The minutes of the previous meeting were read.

A letter was read from Miss Virginia Hutchison, Secretary of the Women's Auxiliary to the National Association of Sheet Metal Contractors, regarding inaugurating the Baltimore Auxiliary and joining the National.

Mrs. J. J. Cotton made a report on transportation.

Miss Irene Fingles made a report regarding prizes for each table at the card party which were decided on. The next meeting of the Ladies' Auxiliary will be held on Monday evening, April 22nd.

There were three new members admitted to the Auxiliary: Mrs. George Trautner, Mrs. F. H. Beckwith and Mrs. J. F. Cooper.

Present at the meeting were: Mrs. F. H. Baehr, Mrs. F. H. Beckwith, Mrs. C. E. Brandt, Miss Catherine Brandt, Mrs. J. F. Cooper, Mrs. Jno. J. Cotton, Mrs. Wm. E. Cotton, Mrs. W. A. Fingles, Sr., Mrs. W. A. Fingles, Jr., Miss Irene Fingles, Mrs. J. L. Hagger, Mrs. Wm. Hering, Mrs. J. E. LaMotte, Mrs. P. H. Lenderking, Miss Richter, Miss Mary Rose, Mrs. George Trautner.

Wisconsin Sheet Metal Meeting Held in Milwaukee

A meeting of the Master Sheet Metal Contractors Association of Wisconsin was called to order by Milwaukee President Henry Geussenhainer, April 3, 1929, with the following members present:

Henry Geussenhainer, Sheboygan.

Aug. Zindars, Oconomowoc.
R. G. Suetting, Two Rivers.
R. F. Gehrke, Shawano.
C. C. Tolg, Waukesha.
Alfred Goethel, Milwaukee.
Otto Geussenhainer, Sheboygan.
W. Gehrke, Sheboygan.
W. A. Belau, Milwaukee.

As the appointment of a secretary by the Board of Directors was held over from the convention, motion was made and carried that Walter A. Belau be appointed to serve as secretary for the year 1929.

Interesting discussions on Increasing Membership and on Liability Insurance followed. Many incidents which have occurred to our members were brought to light.

Midland Furnace Company, Columbus, Has Important Addi- tion to Warm Air Literature

The Midland Furnace Company, Columbus, Ohio, manufacturers of the True-steel warm air furnace, have recently issued a catalog describing their Midland riveted and calked steel warm air furnace.

The company has just recently begun the actual production of warm air furnaces, and Catalog A contains some very interesting material on the scientific construction of warm air furnaces which is embodied in this furnace. Illustrations showing the manner in which the joints of the Midland product are riveted and calked. An illustration of the cross-section of a furnace showing the arrangement of the grate, the lining and the fire travel, and also the three-flue radiator, which is said by the manufacturers to be a special feature.

Each feature of the furnace is illustrated and described separately, giving the reader an excellent idea of just what this new product to appear on the market consists of.

The company's responsibility and the guarantee to which the company subscribes are also clearly stated in the catalog, making it a very interesting piece of warm air heating literature for the warm air furnace installer to have. If you have not already received a copy of this catalog you should write for it at once.

Tuttle & Bailey Moves Chicago Sales Office to Old Colony Building

The Tuttle & Bailey Register Manufacturing Company, with headquarters in New York City, has moved its Chicago sales office into room 320-325 Old Colony Building, 407 South Dearborn Street, Chicago. Dave Farquhar is in charge of Chicago branch of this company, and the new arrangement will assist him materially in serving the company's customers. The warehouse of the company will be retained at its present location, 1123 West 37th Street.

Oil Burner Association Meets in New York City

While the National Warm Air Heating Association was meeting at Indianapolis to discuss its problems, the representatives of the oil heating industry met at New York, in the sixth annual exposition and convention of the American Oil Burner Association, held at the Hotel Pennsylvania, New York City, April 9, 10 and 11, 1929.

Among the addresses most interesting to furnace men was one by L. Wayne Arny on the subject, "Opportunities for the Oil Burner Industry in Connection with Warm Air Heating." Mr. Arny is advertising and publicity manager of Richardson & Boynton and was formerly director of publicity for the National Warm Air Heating Association.

A commendable characteristic of the program was the large number of talks, many of them only 15 minutes in length and a few of them running as long as an hour.

Among the general subjects covered were those applying to sales, advertising, accounting, time payments, design manufacture, etc.

About 100 were in attendance at the banquet held on April 9th, and the optimistic statistician claims that 4,000 were in attendance, which, of course, includes everything on two feet and maybe a little more.

About 65 exhibitors of oil burners and auxiliary supplies were

showing their latest models to visitors.

Only members of the American Oil Burner Association were permitted to exhibit and only products manufactured by member companies could be shown.

The American Oil Burner Association is an international organization devoted to encouraging and broadening the efficient use of oil fuel and oil burning equipment.

Interviewing the salesmen of nearly all the oil burners as shown at the convention, one learns that each buyer is particularly adapted for the warm air furnace.

However, a careful investigation brings forth that some are far more adapted to warm air furnaces than are others.

Indianapolis Home Show Awakens Interest in Warm Air Heating

While the National Warm Air Heating Association was in session at the Claypool Hotel, Indianapolis, another event of great interest to the warm air heating fraternity and builders generally was taking place at the Fair grounds, and that was the Indianapolis Home Show.

Oil burners and warm air heating equipment came in for a great deal of notice by the patrons.

Among the warm air heating folks present at the show were the following:

The Forest City Walworth Run Foundries Company, Cleveland.

Lennox Furnace Company, Marshalltown, Iowa.

The Peninsular Stove Company, Detroit.

Hall-Neal Furnace Company, Indianapolis.

A-C Manufacturing Company, Pontiac, Illinois.

Peerless Foundry Company, Indianapolis.

Moncrief Furnace Company, Inc., Indianapolis.

L. J. Mueller Furnace Company, Milwaukee.

Mid-West Heating & Service Company, Indianapolis.

The Waterman-Waterbury Company, Minneapolis.

The Farquhar Furnace Company, Wilmington, Ohio.

The Meyer Furnace Company, Peoria, Illinois.

The Williamson Heater Company, Cincinnati.

The Kruse Furnace Company, Indianapolis.

Louis F. Brandt Wants Information on How to Ventilate Milk House

The sheet metal contractor of today is coming up against all manner of problems that keep his think tank pretty busy during his waking hours. Here's one from Louis F. Brandt, Glencoe, Minnesota.

"I have a problem which a farmer brought in. It is that of keeping a milk room 8x12 feet dry. The farmer claims that the room gets so wet that it is nasty to work in, and wanted to know if a system of ventilation would do away with the condition. If so, how could such a system be put in so as to give the best results?"

It would seem that it would be a simple matter to install a ventilator that would prevent condensation occurring in the milk house, but there may be some special condition to meet of which Mr. Brandt has not appraised us. In order to do justice to the job, therefore, we are going to request Mr. Brandt to give us full information and if possible a diagram of the building and its relation to other nearby structures. In that way we will gain a definite idea of what the needs in the case are and can go about the work in an intelligent manner. Other men who write in for information should bear this in mind also: that the more detailed information they can give us concerning the conditions, the better we are able to diagnose the case and prescribe a remedy.

J. C. Miles, Warm Air Furnace Co., on Modern Air Conditioning

Associations of furnace contractors, sheet metal contractors, the American Gas Association, etc., are keeping up with the modern interest in forced air conditioning—almost

too much so, is the opinion of J. C. Miles, inventor of the Miles Automatic Furnace Fan, who has been deluged with invitations to speak at annual conferences, association meetings, and to conduct schools of forced air.

Mr. Miles, who has recently designed a complete air conditioning outfit, delivered one of the featured addresses on the program of the Sheet Metal Contractors' Association, which held its annual meeting at the Hotel Brunswick, Lancaster. The subject of his address was "The Air Conditioning of the American Home." At the close of his talk, Mr. Miles was invited to address the National Association of Sheet Metal Contractors, Baltimore, on Thursday, June 6th.

An address made by Mr. Miles before the Warm Air Heating Contractors' Association of Columbus, O., on March 25th, resulted in the establishment of a School of Instruction on Forced Air Heating, which Mr. Miles conducted under the auspices of the association, at Columbus, during the week of April 13th.

Among the most important invitations which Mr. Miles has accepted is one indicative of the growing interest being felt in forced air heating by the American Gas Association, who tendered a request that he speak to them on this important subject at their annual meeting, held at the Hotel Nicollet, Minneapolis, Minnesota, April 17th.

Detroit-Michigan Stove Has New Catalog with Furnace Ratings

The Detroit-Michigan Stove Company, manufacturers of Jewel furnaces, Detroit, has recently issued a supplementary catalog showing the Detroit Jewel "40 Series" furnace.

In addition to containing complete information about the furnace and repair parts, the catalog also contains the Standard Code for the correct installation of warm air heating systems. It also contains ratings of furnaces by the National Warm Air Heating Association.

In writing for it, subscribers should ask for catalog No. 133.

RANDOM NOTES AND SKETCHES

Ed Gardner, one of the Indianapolis sheet metal plutocrats, has a 20-acre farm about eight miles from the city, upon which are growing some hickory and walnut trees. However, for a number of years neither Ed nor his charming wife had a chance to gather any of these nuts, because trespassers would get there first. Last year, however, Ed consulted with a botanical friend, with the result that the following notice was posted at conspicuous points about his premises: "Trespassers, take warning! All persons entering this wood do so at their own risk, for although common snakes are not often found, the *Corylus avellane* abounds everywhere about here, and never gives warning of its presence." The place was unmolested and Ed gathered his crop in peace.

* * *

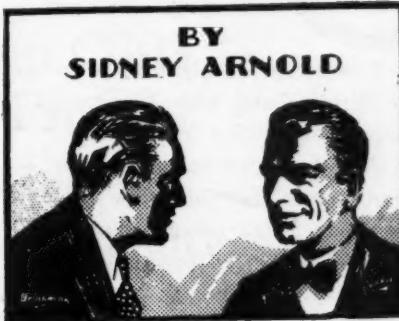
The Illinois Sheet Metal Contractors' convention at Peoria was a success, but we all know it would have been much better if my old friend, Charlie Louis, could have been there. His passing has left a big gap in the organization which will be hard to fill.

* * *

A lot of boys at the convention were saying that the Illinois Travelers' Auxiliary is the only auxiliary that provides "kiddie - checking" service. Mrs. Wm. P. Laffin was well satisfied with the same.

* * *

W. A. "Bill" Backes, who is an up and coming sheet metal and warm air heating contractor of Peoria, and an active association man as well, held open house during the convention in his new 2-story shop. He was busy between sessions showing the boys the new layout and serving sandwiches and soda pop to all who called. Bill promised



to send me several photographs of the new shop when it gets dolled up so all of you may see his up-to-date place of business.

* * *

Lew Denoyer is still confined to his home on account of illness and his absence from the convention was noticed by all his many friends. I learned he was on the mend, however, and we can expect to see him on the job soon.

* * *

Charlie Hall, Indianapolis, and Jim Triggs, Huntington, Indiana (both good yachtsmen), met at the former's club in Indianapolis during the recent convention and fell to arguing about whether a ship could dispense more easily with its captain or its engineer. They were getting nowhere and were growing tired of their purposeless discussion, so they decided to find out for themselves. Jim said he'd be the captain and Charlie agreed to be engineer. And so they started out.

After a couple of hours of cruising Charlie suddenly appeared on the bridge covered with oil and soot, bruised as to one eye and generally the worse for wear.



"Chief!" he called to Jim, wildly beckoning with a monkey wrench. "You'll have to come down here at once. I can't seem to make her go."

"Of course you can't," said Jim, laughing and calmly removing his pipe from his mouth. "She's ashore."

* * *

Nonsense

"Next." "Who, me?" "Born?" "Yes, sir." "Where?" "Russia." "What part?" "All of me." "Why did you leave Russia?" "I couldn't bring it with me." "Where were your forefathers born?" "I only got one father." "Your business?" "Rotten." "Where is Washington?" "He's dead." "I mean the capital of the United States?" "They loaned it all to Europe." "Now, do you promise to support the Constitution?" "Me? How can I? I've got a wife and six children to support."

* * *

J. M. Mattingly, Owensboro, Kentucky—"I've struck a perfectly priceless idea. I've arranged to give a man \$10,000 on condition that he relieves me of all my worries."

Chas. A. Phal, Akron, Ohio—"That's fine, but where are you going to get the \$10,000?"

Mattingly—"Ah, that will be his first worry."

* * *

If the Shoe Fits

"Got a sweetheart, Lily?"

"Yes, and he's a regular gentleman."

"You don't say so?"

"Yes, he took me to a restaurant last night and poured his tea into a saucer to cool it; but he didn't blow it like common people do—he fanned it with his hat—and say, I wish you'd see how he cleans up the gravy with a piece of bread. It's the prettiest thing in the world."

Market Factors Generally Strong

Pressure for Finished Steel Maintained Though, as in Pig Iron, Buying Diminishes—Semifinished Shortage Hurts—Valley Iron Up 50 Cents

FINISHED steel markets display remarkable vitality, considering their record performance thus far in 1929. The situation is more mixed, a condition likely to become accentuated as the quarter wears on, but on the whole production is off only fractionally from the recent peak, deliveries on some products are further deferred, and specifications assure May operations.

Most consumers being well protected for the second quarter and loath, as usual, to commit themselves for the third, incoming business in some lines has contracted. In isolated cases dragging delivery of some products has compelled users to hold back on others more readily available.

Neutralizing this, mills only now are receiving specifications against some of the recent heavy railroad equipment orders, resulting in the paradox of deliveries lengthening as new business shrinks.

The new quotations will not receive an adequate test for a number of weeks, as consumers are well covered for the second quarter. New buying is light, only occasional small orders being placed for fill-in requirements.

The market is firm on such business at \$18, valley, for No. 2 foundry iron and basic, and \$18.50 for malleable and bessemer. The advance in prices is not yet general enough to quote a range.

Several larger pig iron melters in Chicago allied with the building, automotive and railroad industries have bought for July-August delivery, and even through third quarter.

Spot orders constitute the major activity in the market. Shipments are approximately equal to March. The price is steady at \$20, base, Chicago furnace.

Sales of silvery iron are more active, with less stocks of higher silicon iron in furnace yards. The

tonnage of eastern lake furnace iron sold here for cargo shipment is light.

Production of pig iron is steady at Birmingham, with 18 blast furnaces in operation in Alabama.

A little improvement is noted in spot buying. Surplus stock of foundry iron is not being reduced rapidly. The price continues \$15.50, base, Birmingham.

A little tonnage still is being shipped out of this territory, and for a few weeks some basic iron will be moved to the Ohio river district. Pressure pipemakers forecast production this summer at 80 per cent.

Nonferrous metal markets have become demoralized, largely on account of the break in copper.

One reason for recent strength here was the possibility of cut-off supplies from Mexico, but now conditions have improved in that country. It also is said that Germany is holding back her purchases abroad on account of the reparations situation.

Users of metal are well covered for their spring needs, with the result that they are not induced to buy more even at cut prices. Current lower prices on copper and lead still are far above the averages of the past few years.

Shipments and use of all metals continue unusually large. The price situation became unsound because of its rapid rise, so the truth about consumption is obscured for the time being. There is danger of the drop being overdone, just as the rise was overdone. In other words, there is a possibility of rapid fluctuation in both directions, say prominent buyers and sellers, before equilibrium is reached.

Copper

After the break from 24c, Connecticut, beginning April 8, the market appeared to settle at 19.25c, but on Monday the lack of buying

caused it to drop in the afternoon to 18.50c and then before the close to 18c.

Not much metal was sold at any price, except for a fair amount, mostly August shipment, at 19.25c. Statistics for March showed shipments breaking all records, nearly 166,000 tons. Stocks were cut about 2,200 tons to less than 53,000 tons of refined metal. Output also broke all records. April shipments undoubtedly will be far above average, but output may be a shade over them, it is said.

Tin

The price of Straits fell to 45.25c, perhaps a shade less on a few sales, the lowest in several years. This was a little under the price of last June, when there was a stir in the market because the prediction that tin would drop to 45c was considered extreme.

Consumers did good buying around 46c, mostly for nearby positions, but speculative support was withdrawn. The latter factor has been prominent in the market in London in the past year, even though speculative business in this country has been light.

Zinc

Prime western has held better than most other metals, but the recent high price of 6.80c, East St. Louis, has become merely an asking price, with some odd lots available in the past few days as low as 6.60c. Even the latter has not been taken to any great extent.

Lead

After the market had shown signs of holding at 7.15c, New York, it gave way Monday afternoon to 7c.

Not much buying has been done lately. The recent high was 7.75c. That was an artificial level, caused by the uncertain transportation situation in Mexico and a sudden spurt abroad.

You Can,

Lower Shop Costs
Increase Profits
And Produce a
More Lasting Quality
of Sheet Metal
Work

with

Black, Galvanized and Terne

SHEETS

of

COP-R-LOY

Reg. U. S. Pat. Off.

THE COPPER ALLOYED SHEET STEEL

Time saved in forming, bending and braking means a better profit for you in the finished job. Wheeling Sheets of COP-R-LOY combine "soft" workability with great durability. They are flat—bundle after bundle. They take a single and double seam without cracking—all operations are performed with the highest degree of efficiency and at the lowest cost.

Add to these definite time, money and labor

saving advantages the fact that these sheets are of COP-R-LOY, the Copper Alloyed Sheet Steel of national reputation, and you will readily appreciate why sheet metal workers, everywhere, insist upon Wheeling Quality. Prompt shipments to your shop from a warehouse near you.

WHEELING CORRUGATING COMPANY, Wheeling, W. Va.
Branches: New York Buffalo Philadelphia Chicago
Kansas City St. Louis Richmond Chattanooga
Minneapolis Des Moines Columbus, Ohio

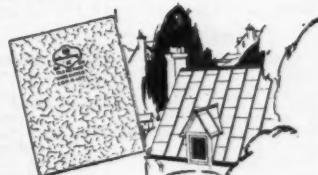


Wheeling Spanish Metal Tile

Here is roofing that has the looks of Old Spanish Tile without the weight or cost penalty. Fire-proof, lightning-proof, leak-proof. Low in price—good profit assured. Suitable for all types of homes and buildings. Made of COP-R-LOY and Hand-Dipped in Pure Molten Zinc, after forming.



Reg. U. S. Pat. Off.



Wheeling Roofing Terne

Made of COP-R-LOY, The Copper Alloyed Sheet Steel, and coated to full weight with pure tin and lead. The practical roofing for many buildings. Fire-proof, lightning-proof. Low cost—lower insurance rates.

Chicago Warehouse Metal and Furnace Supply Prices

AMERICAN ARTISAN is the only publication containing Western Metal, Furnace Supply and Hardware prices corrected weekly

METALS

PIG IRON

Chicago Fdy.	
No. 2	\$20.00
Southern Fdy. No. 2	21.51
Lake Superior Charcoal	27.04
Malleable	20.00

FIRST QUALITY BRIGHT CHARCOAL TIN PLATES

IC	20x28 112 sheets	\$22.50
IX	20x28	25.50
LXX	20x28 66 sheets	14.50
LXXX	20x28	15.50
IXXXX	20x28	17.00

TERNE PLATES

	Per Box
IC 20x28, 40-lb. 112 sheets	\$26.70
IC 20x28, 40-lb. 112 sheets	29.70
IC 20x28, 25-lb. 112 sheets	22.20
IX 20x28, 25-lb. 112 sheets	25.20
IX 20x28, 20-lb. 112 sheets	20.25
IV 20x28, 20-lb. 112 sheets	23.00

"ARMCO" INGOT IRON PLATES

No. 8 ga.—100 lbs.	\$4.15
3/16 in.—100 lbs.	4.05
1/4 in.—100 lbs.	3.85

COKE PLATES

Cokes, 80 lbs., base, 20x28	\$12.00
Cokes, 90 lbs., base, 20x28	12.20
Cokes, 100 lbs., base, 20x28	12.40
Cokes, 107 lbs., base, IC	
20x28	12.75
Cokes, 135 lbs., base, IX	14.75
Cokes, 155 lbs., base, 2X	8.50
56 sheets	8.35
Cokes, 175 lbs., base 3X	10.25
56 sheets	10.25
Cokes, 195 lbs., base 4X	
56 sheets	
Base 10 ga.—per 100 lbs.	\$3.35
"Armco" 10 ga.—per 100 lbs.	4.15

ONE PASS COLD ROLLED BLACK

No. 18-20	per 100 lbs.	\$3.60
No. 22	per 100 lbs.	3.75
No. 24	per 100 lbs.	3.80
No. 26	per 100 lbs.	3.90
No. 27	per 100 lbs.	3.95
No. 28	per 100 lbs.	4.05
No. 29	per 100 lbs.	4.20
No. 30	per 100 lbs.	4.20

"ARMCO" GALVANIZED

"Armco" 24	per 100 lbs.	\$6.15
------------	--------------	--------

GALVANIZED

No. 16	per 100 lbs.	\$4.15
No. 18	per 100 lbs.	4.20
No. 20	per 100 lbs.	4.45
No. 22	per 100 lbs.	4.50
No. 24	per 100 lbs.	4.65
No. 26	per 100 lbs.	4.90
No. 27	per 100 lbs.	5.00
No. 28	per 100 lbs.	5.15
No. 30	per 100 lbs.	5.55

BAR SOLDER

Warranted 50-50	per 100 lbs.	\$33.75
18-52	per 100 lbs.	33.00
15-55	per 100 lbs.	31.75
Plumber's	per 100 lbs.	29.75

ZINC

In Slabs		\$7.25
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SHEET ZINC

Cask Lots (600 lbs.)		\$11.75
Sheet Lots		12.75

BRASS

Sheets, Chicago base		28 1/2 c
Miss base		27 1/2 c
Tubing, brazed, Chicago base		36 1/2 c
Mill base		35 1/2 c
Tubing, seamless, Chicago base		33c
Mill base		32c
Wire, Chicago base		28 1/2 c
Mill base		27 1/2 c
Rods, Chicago base		25 1/2 c
Mill base		24 1/2 c

COPPER

Sheets, Chicago base		33 1/2 c
Mill base		32 1/2 c
Tubing, seamless, Chicago base		38c
Mill base		35c
Wire, plain rd. 8 B. & S. Ga.		
and heavier		30 1/2 c

LEAD

American Pig	\$8.85
Bar	9.85

TIN

Bar Tin	per 100 lbs.	\$55.50
Bar Tin	per 100 lbs.	56.50

HARDWARE, SHEET METAL SUPPLIES, WARM AIR FURNACE FITTINGS AND ACCESSORIES.

ASBESTOS

Paper up to 1/16	6c per lb.
Roll board	6 1/4c per lb.
Mill board 3/32 to 1/2	6c per lb.

BRUSHES

Furnace Pipe Cleaning	Bristle with handle each	\$0.75
Flue Cleaning	Steel only, each	1.25

CEMENT, FURNACE

American Seal, 5-lb. cans, net	\$4.45
American Seal, 10-lb. cans, net	5.50
American Seal, 25-lb. cans, net	12.25

Pecora	per 100 lbs.	7.50
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CHIMNEY TOPS

Adams' Revolving	Wt. Doz.	Price Doz.
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4 in.	21 lbs.	\$11.00
6 in.	24 lbs.	11.50
7 in.	30 lbs.	13.50
8 in.	33 lbs.	15.00
9 in.	51 lbs.	16.50
10 in.	56 lbs.	18.00
12 in.	66 lbs.	22.00
14 in.	110 lbs.	36.00

CLINKER TONGS

Each		\$1.50
------	--	--------

CLIPS

Damper	No-Rivet Steel, with tall pieces, per gross	\$9.50
Rivet Steel	with tall pieces, per gross	7.50
Tall pieces, per gross		2.40

COPPERS—Soldering Pointed Roofing

3 lb. and heavier	per lb. 40c
2 1/2 lb.	per lb. 45c
2 lb.	per lb. 48c
1 1/2 lb.	per lb. 55c
1 lb.	per lb. 60c

CORNICE BRAKES

Chicago Steel Bending	
-----------------------	--

Nos. 1 to 6B	Net
--------------	-----

CUT-OFFS

Gal., plain, round or cor. rd.	
26 gauge	30%
28 gauge	35%

DAMPERS

"Yankee" Hot Air	
7 inch, each 20c, doz.	\$1.60
8 inch, each 25c, doz.	2.20
9 inch, each 30c, doz.	2.60
10 inch, each 32c, doz.	2.80

SMOKE PIPE

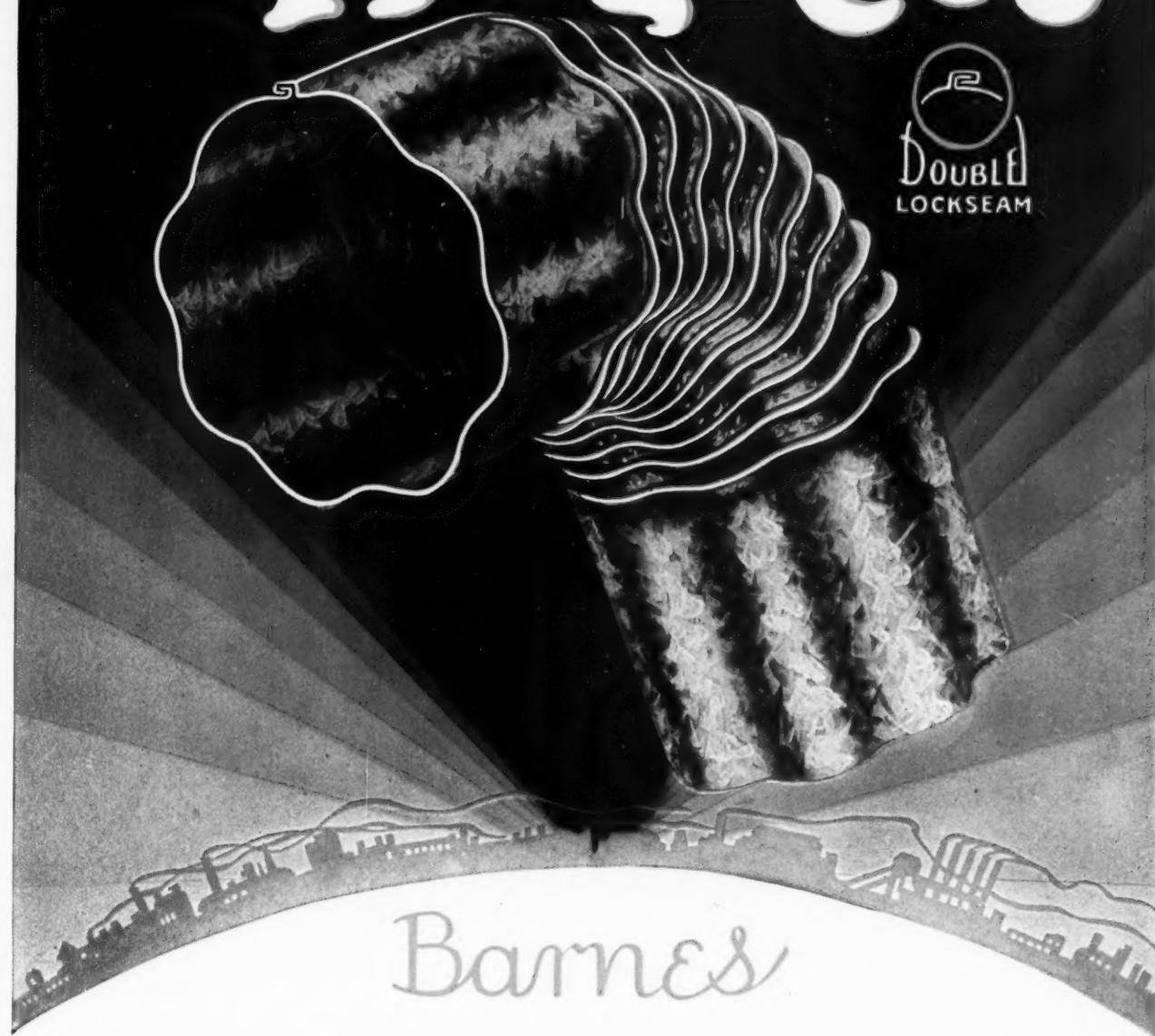
7 inch, doz.	\$1.60
8 inch, doz.	2.20
9 inch, doz.	3.00
10 inch, doz.	2.75
12 inch, doz.	4.50

DAMPER

7 inch, doz.	\$2.00

<tbl_r cells="2" ix="4" maxcspan

Undenied Progress



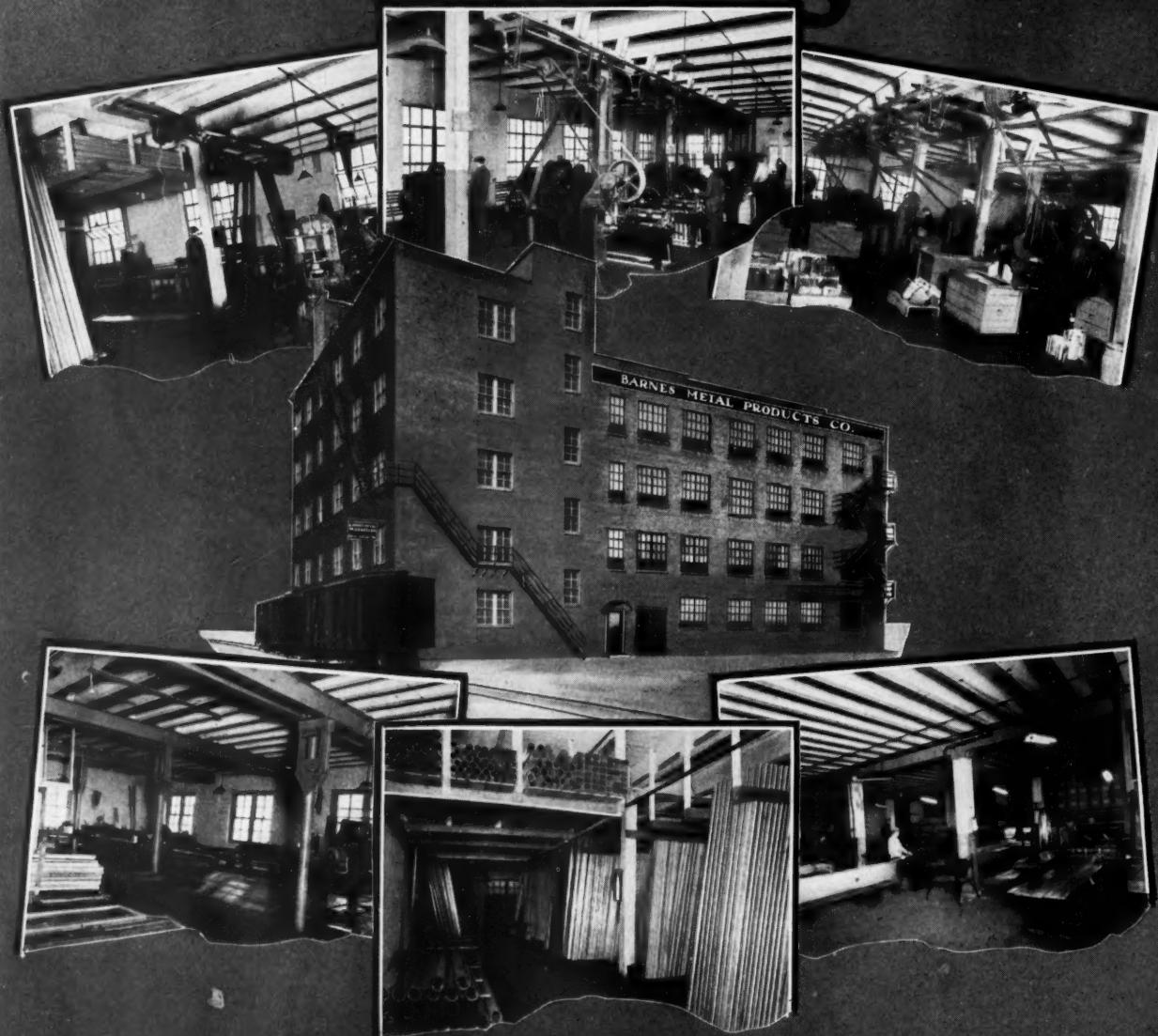
THE FINEST elbow ever made. Double lock seamed on the outside—added strength where it is most needed, an exclusive Barnes feature. Twice the usual number of crimps—less distortion of metal—smoother curve—angle more accurate—longer taper—easier fit. Accurate as to size and full weight guaranteed. Every elbow plainly trademarked, with size, gauge and angle.

Use Barnes Products to Build Better Business. Our
Booklet Tells How. Write for Free Copy

BARNES METAL PRODUCTS COMPANY, 1531 Kingsbury Street, Chicago, Illinois

MANUFACTURERS OF CONDUCTOR PIPE, ELBOWS, EAVES TROUGH AND FITTINGS. ALL SIZES, ALL METALS

The Plant Behind Barnes Progress



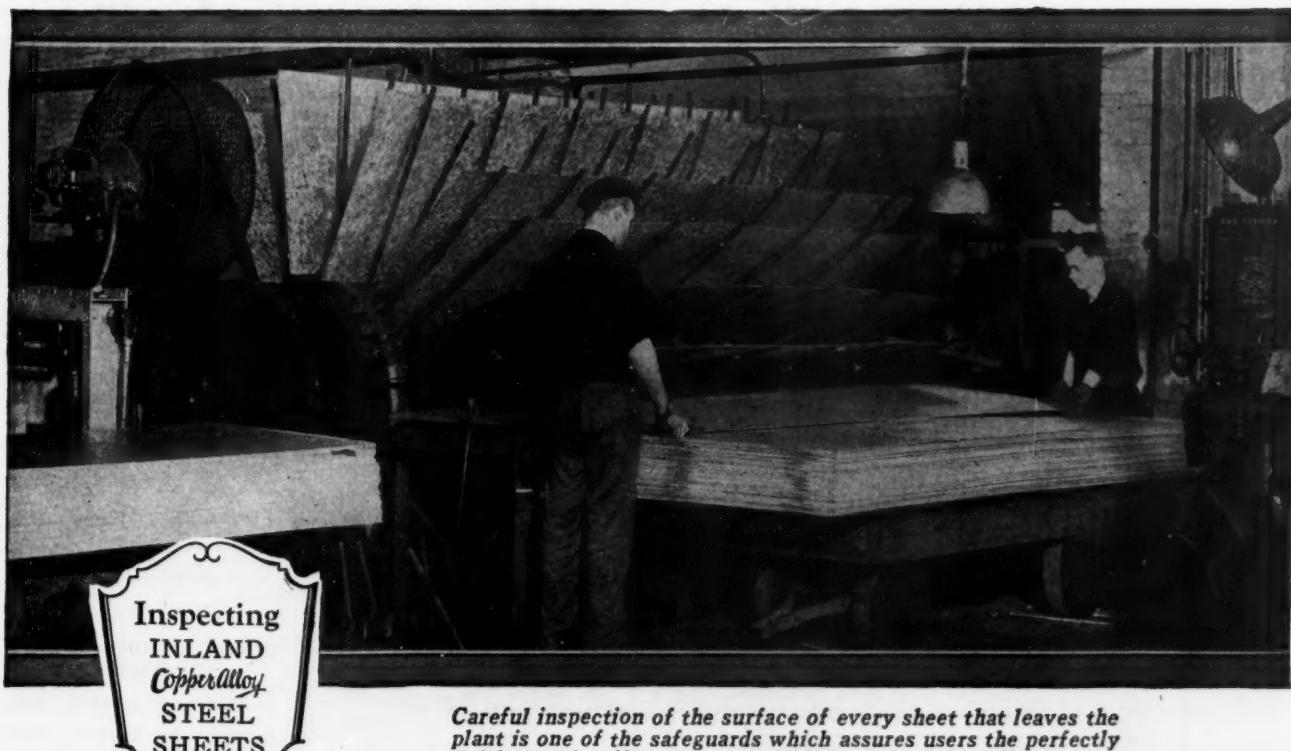
THIS is the home of Barnes Products, in which is housed the specially constructed equipment that insures a continuous uniformity of Barnes quality.

The unusual merit that characterizes Barnes Products is the result of a dominating spirit of "UNDENIED PROGRESS." Because of this unquestioned leadership, "As Good as Barnes" is a common expression in the trade.

To serve you successfully and better than you were ever served before, is our constant aim and ambition. On this basis of a square deal for all, we invite your business.

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BARNES METAL PRODUCTS COMPANY, 1531 Kingsbury St., Chicago, Illinois
MANUFACTURERS OF CONDUCTOR PIPE, ELBOWS, EAVES TROUGH AND FITTINGS. ALL SIZES, ALL METALS



Inspecting
INLAND
Copper Alloy
STEEL
SHEETS

Careful inspection of the surface of every sheet that leaves the plant is one of the safeguards which assures users the perfectly finished and uniform sheets which bear the Inland Trademark.

INLAND *Copper alloy* STEEL SHEETS

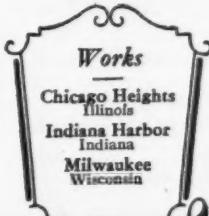
Scientific research, cooperation with sheet steel users, and rigid inspection enable Inland to employ its experience and control of production to bring the highest degree of satisfaction to its customers. Coordination of customers' needs with mill facilities enables us to secure the proper treatment for every order. We know that the ultimate service the sheet is to render is the determining factor when chemistry, annealing, pickling, cold rolling and other features are specified. In addition to inspection by sight, the inspectors make careful tests of chemical and physical properties of the steel. Only satisfactory sheets are shipped. The result is a workable sheet, suitable to your needs. Send for our booklet.

Contributing Member Sheet Steel Trade Extension Committee.



INLAND STEEL COMPANY
38 South Dearborn Street
Chicago

SHEETS BARS PLATES SHAPES RAILS TRACK ACCESSORIES RIVETS BILLETS



Mention AMERICAN ARTISAN in your reply—Thank you!

ADVERTISERS' INDEX

The dash (—) indicates that the advertisement runs on a regular schedule but does not appear in this issue.

A	
A-C Mfg. Co.	106
Aeolus-Dickinson Co.	—
Agricola Furnace Co.	—
Akrat Ventilators, Inc.	—
American Brass Co.	—
American Foundry & Furnace Co.	—
American Furnace Co.	—
Armc Distributors Assn. of America	—
American Wood Register Co.	108
Arex Co.	—
Auer Register Co.	—
Automatic Humidifier Co.	—
B	
Barnes Metal Prod. Co.	131-132
Beckwith Co., The	—
Beh & Co.	—
Berger Bros. Co.	137
B. & F. Mfg. Co.	—
Berger Co., L. D.	—
Bertsch & Co.	137
Brillion Furnace Co.	—
Burgess Soldering Furnace Co.	—
C	
Canton Furnace & Mfg. Co.	—
Central Alloy Steel Works	—
Chicago Furnace Supply Co.	106
Chicago Solder Co.	—
Cleveland Castings Pattern Co.	108
Colburn Heater Co.	—
Chicago Metal Mfg. Co.	—
Connors Paint Co., Wm.	106
Copper & Brass Research Association	—
D	
Dieckmann Co., Ferdinand	—
Diener Mfg. Co., Geo. W.	—
Dreis & Krump Mfg. Co.	137
E	
Eiermann, Wm.	—
Emrich, C., Co.	—
F	
Fanner Mfg. Co.	108
Farris Furnace Co.	—
Floral City Heater Co.	—
Fort Shelby Hotel	—
Fox Furnace Co.	105
Forest City - Walworth Run Fdy. Co.	—
Friedley-Veshardt Co.	—
G	
Graff Furnace Co.	—
Gerock Bros. Mfg. Co.	—
H	
Harrington & King Perf. Co.	137
Hart & Cooley & Co.	104
Henry Furnace & Foundry Co.	—
Hess-Snyder Company, The	107
Wm. Highton & Sons Div.	—
Homer Furnace Co.	102
Horan Stay Hanger Co.	—
Hotel Sinton	—
Hyro Mfg. Co.	109
I	
Independent Register & Mfg. Co.	—
Inland Steel Co.	133
Interstate Machinery Co.	140
J	
Johnson Co., Chas.	—
K	
Kernchen Co.	140
Kirk-Latty Co.	108

L	
Lamneck & Co., W. E.	—
Lamson & Sessions Co., The	—
Langenberg Mfg. Co.	—
La Salle Machine Works	—
Lennox Furnace Co.	—
Linde Air Products Co.	—
Lupton's Sons Co., David	135

M

Marshall Furnace Co.	—
Magirl Foundry Furnace Co.	—
Maplewood Machinery Co.	—
Marshalltown Mfg. Co.	—
May-Feibeger Co.	—
McIllvaine Burner Corp.	106
Meyer & Bros. Co., F.	107
Meyer Furnace Co.	112
Midland Furnace Co.	103
Milwaukee Corr. Co., Back Cover	—
Mt. Vernon Furn. & Mfg. Co.	—
Mueller Furnace Co., L. J.	—

N

National Regulator Co.	—
National Super Service Co.	—
New Jersey Zinc Sales Co., The	—
Northern Oil Burner Co.	—

O

Osborn Co., The J. M. & L. A.	122
Oxweld Acetylene Co.	—

P

Parker, Kalon Corp.	141
Peck, Stow & Wilcox	—
Peck, H. E.	146
Premier Warm Air Heater Co.	—
Prest-O-Lite Co., Inc.	—

Q

Quincy Pattern Co.	108
--------------------	-----

R

Richardson & Boynton Co.	—
Robinson Co., A. H., Front Cover	—
Rock Island Register Co.	—
Rybolt Heater Co.	—
Ryerson & Sons, Inc., Jos. T.	111

S

Sall Mountain Co.	—
Schwab & Sons Co., R. J.	—
Security Stove & Mfg. Co.	—

Sheer Co., H. M.

Sheet Steel Trade Extension Committee	—
Standard Furn. & Supply Co.	—
Standard Fdry. & Furn. Co.	—
Standard Ventilator Co.	137
St. Louis Tech. Inst.	—
Success Heater Mfg. Co.	—

T

Taylor Co., N. & G.	—
Technical Products Co.	—
Thermo-Control Regulator Co.	—
The Thatcher Co.	—
Tuttle & Bailey Mfg. Co.	—
XXth Century Htg. & Mfg Co.	—

V

Vedder Pattern Works	108
Viking Shear Co.	—

W

Warm Air Furnace Fan Co.	119
Waterloo Register Co.	—
Waterman-Waterbury Co.	—
Western Steel Products Co.	—
Wheeling Corr. Co.	129
Wise Furnace Co.	—

Markets--Continued from Page 130

PASTE		RIDGE ROLL
Asbestos Dry Paste:		Galv., Plain Ridge Roll, b'dld
200-lb. barrel	\$14.00	75-15-15%
100-lb. barrel	7.50	
50-lb. pail	4.35	
10-lb. bag	1.00	
5-lb. bag	.55	
2½-lb. cartons	.25	
POKERS, FURNACE		SCREWS
Each	\$0.75	Sheet Metal
POKERS, STOVE		7. ½x½, per gross
per doz.	1.10	No. 10. ¾x3/16, per gross
W'r'l Steel, str't or bent, per doz.	\$0.75	No. 14. ¾x¾, per gross
PIPE		SHEARS, TINNERS' & MACHINISTS'
Conductor		Viking
Cor. Rd., Plain Rd. or Sq.		Lennox Throatless
Galvanized		No. 18
Crated and nested (all gauges)	75-7½%	Shear blades
Crated and not nested (all gauges)	75-2½%	(f. o. b. Marshalltown, Iowa)
Furnace Pipe		SHIELDS, ADJUSTABLE RADIATOR
Double Wall Pipe and Fittings	60%	No. 1 "Gem" 11" to 17"
Single Wall Pipe, Round Galvanized Pipe	60%	No. 2 "Gem" 14" to 24"
Galvanized and Tin Fittings	60%	No. 8 "Gem" 35" to 65"
Lead		SHOES
Per 100 lbs.	\$12.50	Galv. 28 Gauge, Plain or corrugated round flat crimp
Stove Pipe		26 gauge round flat crimp
"Milcor" "Titelock" Uniform Blue Stove		24 gauge round flat crimp
28 gauge, 5 inch U. C. nested	11.00	
28 gauge, 6 inch U. C. nested	12.00	
28 gauge, 7 inch U. C. nested	14.00	
30 gauge, 5 inch U. C. nested	10.25	
30 gauge, 6 inch U. C. nested	11.00	
30 gauge, 7 inch U. C. nested	13.00	
T-Joint Made up		SNIPS, TINNERS'
6-inch, 28 ga. per ton	\$3.40	Clover Leaf
All Zinc		National
No. 11, all styles	60%	Star
PULLEYS		Milcor
Furnace Tackle	per doz. \$0.85	
	per gro. 8.50	
Furnace Screw (enamored)	per doz. 75	
PUTTY		SQUARES
Commercial Putty, 100-lb. Kits	per doz. \$3.50	Steel and Iron
		(Add for bluing \$3 per doz. net)
QUADRANTS		Mitre
Malleable Iron Damper	10%	Try
REDUCERS—Oval Stove Pipe		Try and Bevel
7—6, 28-gauge, 1 doz. in carton	\$2.00	Try and Mitre
REGISTERS AND BORDERS		Fox's
Cast Iron	20%	per doz. \$6.00
Steel and Semi-Steel	33 1/2%	
Baseboard, 1 piece	33 1/2-20%	
Baseboard, 2 piece	33 1/2%	
Wall	33 1/2%	
Adjustable Ceiling Ventilators	33 1/2%	
STOPPERS, FLUE		WIRE
Common	per doz. \$1.10	Black annealed wire, No. 9, per 100 lbs. \$3.20
Gem, No. 1	per doz. 1.10	Galvanized barb wire, per 100 lbs. 3.20
Gem, flat, No. 2	per doz. 1.00	Cattle Wire—galvanized catch weight spool, per 100 lbs. 3.20
VENTILATORS		Galvanized Plain Wire, No. 9, per 100 lbs. 3.25
Standard	30 to 40%	
WIRE		
Japaned, Bronzed and Plated, 4x6 to 14x14	33 1/2%	
Large Register Faces—Cast, 14x14 to 38x42	50%	
Large Register Faces—Steel, 14x14 to 38x42	60%	
Register Faces—Cast and Steel		
Japaned, Bronzed and Plated, 4x6 to 14x14	33 1/2%	
Large Register Faces—Cast, 14x14 to 38x42	50%	
Large Register Faces—Steel, 14x14 to 38x42	60%	
Ventilating Register		
Per gross	9.00	
Small, per pair	.30	
Large, per pair	.50	

When writing mention AMERICAN ARTISAN—Thank you!



**THIS NEW TROUGH
ADDS BEAUTY TO THE EAVES AND CATCHES
ALL THE RAIN**

WHETHER the style of the residence be an English half-timber, Colonial, Spanish or any other type of modern domestic architecture, you will find that the Lupton trough harmonizes effectively and unobtrusively. A glance at the illustration above will show you how well it emphasizes the roof line of the house.

The new Lupton Art-Bead Trough is as practical as it is ornamental. The decorative bead has been so constructed that it takes care of all the rain—no matter how heavy the storm. The water that washes up to the edge of the gutter is caught by this overhanging bead, and kept on the inside. None drips over to run down the walls and leave streaks.

Sections have been

designed to fit into each other quickly and snugly. Any type of hanger may be used. The Lupton shank and circle, however, has proved to be the most practical.

The Lupton Art-Bead Trough is made in all metals: 16-ounce Copper, Armco Ingot Iron, Toncan Metal, Follansbee Forge and Galvanized Steel. Each carry the same high quality of workmanship that you have come to look for in any product bearing the Lupton label. Every job you put up will bring you many new customers.

See the samples of the new Lupton Art-Bead Trough now on display at your jobber's. DAVID LUPTON'S SONS Co., Allegheny Ave. and Tulip St., Philadelphia.

**LUPTON
ART-BEAD
TROUGH**

Say you saw it in AMERICAN ARTISAN—Thank you!

BUYERS' DIRECTORY

Asbestos Liquid.
B. & F. Mfg. Co., Des Moines, Ia.
Acetylene (Gas) Dissolved.
Prest-O-Lite Co., Inc.,
New York, N. Y.

Asbestos Paper
Sall-Mountain Co., Chicago, Ill.

Benches—Steel
Maplewood Machinery Co.,
Chicago, Ill.

Bolts—Stove.
The Kirk-Latty Co.,
Cleveland, Ohio

Lamson & Sessions Co.,
Cleveland, Ohio

Ryerson & Son, Inc., Jos. T.,
Chgo., N. Y., St. L. Det., Cleve.

Brakes—Bending.
Dreis & Krump Mfg. Co.,
Chicago, Ill.

Ryerson & Son, Inc., Jos. T.,
Chgo., N. Y., St. L. Det., Cleve.

Brakes—Cornices.
Dreis & Krump Mfg. Co.,
Chicago, Ill.

Brass and Copper.
American Brass Co.,
Waterbury, Conn.

Copper & Brass Research As-
sociation, New York

Cans—Garbage.
Osborn Co., The J. M. & L. A.,
Cleveland, Ohio

Castings—Malleable.
Fanner Mfg. Co., Cleveland, Ohio

Ceilings—Metal.
Friedley-Voshardt Co.,
Chicago, Ill.

Milwaukee Corrugating Co.,
Mil., Ch'go, La Crosse, Kan. City

Wheeling Corrugating Co.,
Wheeling, W. Va.

Chaplets.
Fanner Mfg. Co., Cleveland, Ohio

Chimney Tops.
Standard Ventilator Co.,
Lewisburg, Pa.

Clinker Tongs.
L. J. Mueller Furnace Co.,
Milwaukee, Wis.

Stover Mfg. & Engine Co.,
Freeport, Ill.

Copper.
American Brass Co.,
Waterbury, Conn.

Copper & Brass Research As-
sociation, New York

Cornices.
Friedley-Voshardt Co.,
Chicago, Ill.

Milwaukee Corrugating Co.,
Mil., Ch'go, La Crosse, Kan. City

Cutting Blowpipes.
Oxwell Acetylene Co.,
New York, N. Y.

Cut-offs—Rain Water.
Milwaukee Corrugating Co.,
Mil., Ch'go, La Crosse, Kan. City

Bumpers—Quadrants—Accessories.
Milwaukee Corrugating Co.,
Mil., Ch'go, La Crosse, Kan. City

L. J. Mueller Furnace Co.,
Milwaukee, Wis.

Parker-Kalon Corp.,
New York, N. Y.

Stover Mfg. & Engine Co.,
Freeport, Ill.

Damper Regulators.
National Regulator Co.,
Chicago, Ill.

H. M. Sheer Co.,
Quincy, Ill.

Thermo-Control Regulator Co.,
Youngstown, Ohio

Dies—Punch & Press.
La Salle Machine Works,
Chicago, Ill.

Diffuser—Air Duct.
Aeolus-Dickinson Co., Chicago, Ill.

L. J. Mueller Furnace Co.,
Milwaukee, Wis.

Doors—Metal.
Lupton's Sons Co., David,
Philadelphia, Pa.

Drive Screws—Hardened Metallic.
Parker-Kalon Corp.,
200 Varick St., New York

Eaves Trough.
Barnes Metal Products Co.,
Chicago, Ill.

Berger Bros. Co.,
Philadelphia, Pa.

Lupton's Sons Co., David,
Philadelphia, Pa.

Milwaukee Corrugating Co.,
Mil., Ch'go, La Crosse, Kan. City

New Jersey Zinc Sales Co., The,
New York, N. Y.

Wheeling Corrugating Co.,
Wheeling, W. Va.

Elbows and Shoes—Conductor.
Barnes Metal Products Co.,
Chicago, Ill.

Dieckmann Co., Ferdinand,
Cincinnati, Ohio

Lupton's Sons Co., David,
Philadelphia, Pa.

Milwaukee Corrugating Co.,
Mil., Ch'go, La Crosse, Kan. City

Wood Faces—Warm Air.
Auer Register Co., Cleveland, Ohio

American Wood Register Co.,
Plymouth, Ind.

Milwaukee Corrugating Co.,
Mil., Ch'go, La Crosse, Kan. City

Fittings—Conductor.
Barnes Metal Products Co.,
Chicago, Ill.

Milwaukee Corrugating Co.,
Mil., Ch'go, La Crosse, Kan. City

Flanges.
Chicago Metal Mfg. Co.,
Chicago, Ill.

Fittings—Steel Pipe.
Chicago Metal Mfg. Co.,
Chicago, Ill.

Flue Thimbles.
Milwaukee Corrugating Co.,
Mil., Ch'go, La Crosse, Kan. City

Furnace Cement—Asbestos.
Connors Paint Mfg. Co., Wm.,
Troy, N. Y.

Milwaukee Corrugating Co.,
Mil., Ch'go, La Crosse, Kan. City

Furnace Cement—Liquid.
Technical Products Co.,
Pittsburgh, Pa.

Furnace Cleaners—Suction.
Brillion Furnace Co., Brillion, Wis.

National Super Service Co.,
Toledo, Ohio

Furnace Coloring (Enamel).
B & F Mfg. Co., Des Moines, Iowa

Furnace Fans.
A-C Mfg. Co., Pontiac, Ill.

Canton Furnace & Mfg. Co.,
Canton, Ohio

A. H. Robinson Co.,
Masillon, Ohio

Warm Air Furnace Fan Co.,
The, Cleveland, Ohio

Williamson Heater Co.,
Cincinnati, Ohio

Furnace Fuse.
National Regulator Co.,
Chicago, Ill.

Furnace Regulators.
National Regulator Co.,
Chicago, Ill.

H. M. Sheer Co., Quincy, Ill.

Thermo-Control Regulator Co.,
Youngstown, Ohio

Furnace Rings.
Forest City-Walworth Run
Foundries Co., Cleveland, Ohio

Milwaukee Corrugating Co.,
Milwaukee, Wis.

Furnaces—Gas.
Calkins & Pearce, Columbus, Ohio

Mueller Furnace Co., L. J.,
Milwaukee, Wis.

Furnaces—Warm Air

Agricola Furnace Co.,
Gadsden, Ala.

American Furnace Co.,
St. Louis, Mo.

Beckwith Co., The,
Dowagiac, Mich.

Brillion Furnace Co., Brillion, Wis.

Canton Furnace & Mfg. Co.,
Canton, Ohio

Colburn Heater Co., Chicago, Ill.

Emrich Co., Columbus, Ohio

Farris Furnace Co.,
Springfield, Ill.

Floral City Heater Co.,
Monroe, Mich.

Forest City-Walworth Run Fdy.,
Cleveland, Ohio

Fox Furnace Co., Elyria, Ohio

Heaters—School Room.
Floral City Heater Co.,
Monroe, Mich.

Meyer Furnace Co., The,
Peoria, Ill.

L. J. Mueller Furnace Co.,
Milwaukee, Wis.

Waterman-Waterbury Co.,
Minneapolis, Minn.

Heaters—Conductor.
Berger Co., L. D.,
Philadelphia, Pa.

Hotels.
Fort Shelby Hotel,
Detroit, Mich.

Humidifiers.
Automatic Humidifier Co.,
Cedar Falls, Iowa

Chandler Pump Co.,
Cedar Rapids, Iowa

L. J. Mueller Furnace Co.,
Milwaukee, Wis.

Salada Mfg. Co.,
Minneapolis, Minn.

Lath—Expanding Metal.
Milwaukee Corrugating Co.,
Mil., Ch'go, La Crosse, Kan. City

Machines—Crimping.
Bertsch & Co.,
Cambridge City, Ind.

Machinery—Culvert.
Bertsch & Co.,
Cambridge City, Ind.

Machines—Tinsmith's.
Bertsch & Co.,
Cambridge City, Ind.

Dreis & Krump Mfg. Co.,
Chicago, Ill.

Interstate Machinery Co.,
Chicago, Ill.

La Salle Machine Works,
Chicago, Ill.

Maplewood Machinery Co.,
Chicago, Ill.

Marshalltown Mfg. Co.,
Marshalltown, Iowa

Osborn Co., The J. M. & L. A.,
Cleveland, Ohio

Peck, Stow & Wilcox Co.,
Southington, Conn.

Ryerson & Son, Inc., Jos. T.,
Chgo., N. Y., St. L. Det., Cleve.

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Co., Chicago, Ill.

Miters.
Friedley-Voshardt Co.,
Chicago, Ill.

Milwaukee Corrugating Co.,
Mil., Ch'go, La Crosse, Kan. City

Miters—Eaves Trough.
Barnes Metal Products Co.,
Chicago, Ill.

Lupton's Sons Co., David,
Philadelphia, Pa.

Milwaukee Corrugating Co.,
Mil., Ch'go, La Crosse, Kan. City

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Parker-Kalon Corp.,
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Nitrogen (Gas).
Linde Air Products Co.,
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McIlvaine Burner Corp.,
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Connors Paint Mfg. Co., Wm.,
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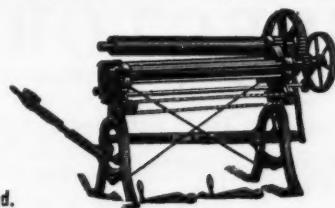
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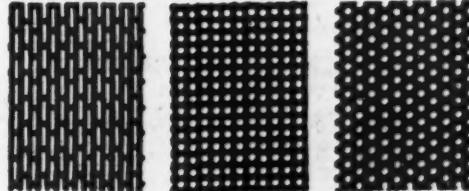
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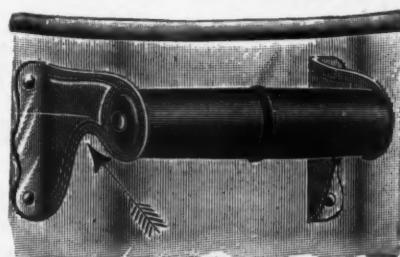
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4

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(Continued from page 136)

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 Peck, Stow & Wilcox Co., Southington, Conn.
 Ryerson & Son, Inc., Jos. T., Ch'go, N. Y., St. L., Det., Cleve.

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 Henry Furnace & Fdy. Co., Cleveland, Ohio
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 Mueller Furnace Co., L. J., Milwaukee, Wis.
 Tuttle & Bailey Mfg. Co., Chicago, Ill.
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 Mueller Furnace Co., L. J., Milwaukee, Wis.

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 National Regulator Co., Chicago, Ill.
 H. M. Sheer Co., Chicago, Ill.
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 Burgess Soldering Furnace Co., Columbus, Ohio
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 Sheet Steel Trade Extension Committee, Pittsburgh, Pa.

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 Milwaukee Corrugating Co., Mil., Ch'go, La Crosse, Kan. City
 Standard Ventilator Co., Lewisburg, Pa.

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Zinc.
 New Jersey Zinc Co., The, New York, N. Y.

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Yearly subscribers to the AMERICAN ARTISAN may insert advertisements of not more than fifty words in our Want and Sales Columns WITHOUT CHARGE.

Such advertisements, however, must be limited to help or situation wanted, tools or equipment for sale, to exchange or to buy, business for sale or location desired and must reach our office by Thursday of the week of publication. This privilege is not extended to manufacturers or jobbers—or those making a business of buying and selling used machines—employment agencies and brokers.

When sending advertisement state whether your name or blind number is to be used.

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For Sale—Well established sheet metal, plumbing and heating business. Modern town, 1,500 population in N. W. Colorado. Large stock. Agricultural and oil development territory. Good tools, machines and clean stock. Invoice about \$3,000.00. Good location, reasonable rent, good prospect for live man. Old age reason for selling. Address A. E. Lytle, Box 455, Meeker, Colorado. P-496

For Sale or Will Consider Partner—In a well-established furnace, roofing and sheet metal business. \$1,000 cash required, balance to come out of business. Small overhead as shop is in rear of Main Street. Will stay with buyer until he gets acquainted. For information write or call on A. P. Nelson, 4933 Stanley Avenue, Downers Grove, Illinois. Phone 756R. H497

For Sale—Sheet metal, furnace and built-up roofing business in progressive Illinois town of 6,000. An established business that will pay a tinner \$400 a month on a very small investment. Must sell in order to take care of larger investment in another point. A real proposition. Will stand strictest investigation. Geo. P. Tomlinson & Son, Salem, Illinois. K497

For Sale—Well equipped and paying sheet metal shop, operated in connection with, but independent of large hardware store in suburb of large Ohio city. Work comes in without soliciting. Fine proposition for one or two good men. \$1,000.00 will buy all. Must act quick. Owner in other line and can't handle. Address O-496, AMERICAN ARTISAN.

I will invest \$500.00 to \$1,000.00 if I can find a first class mechanic and a salesman to each invest the same amount and open a retail furnace store in Moline, Galesburg, Aurora, Joliet or Waukegan, Ill. Give full particulars in your first letter. Address R-496, AMERICAN ARTISAN.

Wanted—Going sheet metal and furnace business. Will exchange six-room modern residence in St. Louis valued at \$5,500. Address J497, AMERICAN ARTISAN.

BUSINESS CHANCES

For Sale—Hardware, plumbing and sheet metal shop. Good tools and clean stock. Building 34 by 36. Seven room house and bath. Two miles from Milton Lake. Sewer and water going in now. Plenty of work. This is priced to sell. Address H. F. Cain, Diamond, Ohio. A498

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Situation Wanted—By first class heating and ventilating man. Have had 27 years' experience. Married and sober, can cut all my own patterns. Make any fittings, work from blue prints and do estimating. Can take charge of shop and handle men. Address Bert J. Hawkins, 117 Galusha St., Owosso, Michigan. T-496

Position wanted by married man, sober and a steady worker. Operated own shop for two years. Eight years' experience in plumbing, gas fitting, heating, and tin shop work. Prefer Washington, Oregon or California. Can go at once. Address D498, AMERICAN ARTISAN, 620 S. Michigan Av., Chicago, Ill.

Sheet metal worker, 31 years old, married, would like steady job with a good heating and sheet metal firm in good town. Especially good on furnace, trough and gutter work, some oil burner installation and service experience. Address P497, AMERICAN ARTISAN.

Tinner and furnace installer wants place with good live Hardware Store in Middle West States. Can do plumbing, draft own patterns and figure furnace installation. Neat and accurate workman, no boozier. Can come at any time. Address R497, AMERICAN ARTISAN.

Situation Wanted—By an all around man with 28 years' experience in tinning, plumbing, steel ceiling and all kinds of heating, etc. Wants a position in Wisconsin or Iowa. Address S-496, AMERICAN ARTISAN.

Position wanted by first class sheet metal worker. 20 years in all branches of the trade. Address E498, AMERICAN ARTISAN, 620 S. Michigan Av., Chicago, Ill.

HELP WANTED

Wanted—Combination sheet metal worker and plumber. Must be A-1 mechanic. Prefer middle-aged married man who is able to handle all kinds of work required in a small country town of 1,000 population. A steady job for the man with ambition. Unless you are sober, honest, industrious, and steady don't waste your time answering this ad. Address L497, AMERICAN ARTISAN.

Wanted—Experienced sheet metal man to invest \$2,000 or more, with services, in growing and well established power shop in Portland, Oregon, doing a general sheet metal, furnace, blow pipe and roofing business. A good opportunity for right man. Address M497, AMERICAN ARTISAN.

Wanted—Combination sheet metal worker and plumber. Must be A-1 mechanic on all kinds of sheet metal work. Steady year-round work to man of ability and good habits. Prefer a man under 42 years. Give age, reference and wages wanted in first letter. Address Milton L. Kistler, Alexander City, Ala. G-498

Wanted—Experienced man to canvas and sell nationally known furnaces, both cast and steel, and sheet metal work in all its branches, in Chicago vicinity. State wages expected and when you could commence, in first letter. Address O497, AMERICAN ARTISAN.

Wanted—Old established business wants manager who understands heating, ventilating and sheet metal work. Salary and commission. Best city on Pacific coast. Seattle, Washington. Address C498, AMERICAN ARTISAN, 620 S. Michigan Av., Chicago, Ill.

HELP WANTED

Wanted—Active partner in sheet metal and electric sign shop. One who can take full charge of shop, do estimating and draft his own patterns. Plant situated in southern town of 140,000 population. Our shop is one of the best equipped in the south for handling sheet metal and electric sign work. Very small capital necessary. Address X-496, AMERICAN ARTISAN.

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Wanted—General all around sheet metal and furnace man for work such as eaves, roofing, furnace repair, installation, etc. Some knowledge of pipe work and plumbing. Either married or single. Prefer non-Catholic. Address C-497, AMERICAN ARTISAN.

Wanted—Sheet metal worker used to square duct ventilation and furnace work. State wages wanted and qualifications in answer. Address Noble Sheet Metal Works, 119 S. Stevens St., Rhinelander, Wis. W-496

Wanted—First class furnace and sheet metal worker, one that can lay out jobs on furnace and do roof work. Will pay \$35.00 per week for start. Address L. O. Nicholson & Son, 326 S. Jefferson St., New Castle, Pa. Y-496

Wanted—Good tinner for general sheet metal and furnace work. Give age and reference. Address Seither & Cherry Co., Keokuk, Iowa. B498

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12½ KW A.E.F. Spot Welder,	
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Nine years in business, now sales manager for eastern company with warehouse and office in Middle West.

Best of references, thoroughly responsible, real ability in exchange for opportunity.

Chicago connection desired but opportunity first consideration regardless of location.

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WARM Air Furnace
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AMERICAN ARTISAN

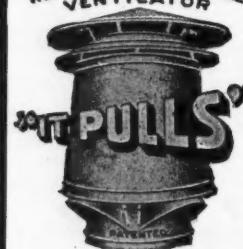
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... can make a secure fastening to sheet metal with a Hardened Self-tapping Sheet Metal Screw

SO SIMPLE are the operations that in only a minute a man can drill or punch a hole and turn in a Hardened Self-tapping Sheet Metal Screw—to make a secure sheet metal assembly.

This unique Screw acts as its own tap. You need only drill or punch a hole—then turn in the Screw with a screw driver. As the Screw is turned in it cuts a thread in the sheet metal, drawing the sections tightly together.

Not only are Self-tapping Screws remarkable time-savers, but they save the expense of tapping; are easier to use than rivets; make more secure

fastenings than bolts—fastenings that stand up even under vibration and severe service.

35,000 sheet metal workers and manufacturers of sheet metal products use Self-tapping Screws for joining and making secure fastenings to sheet metal. These Screws cannot be surpassed for such work as—fabricating ducts, erecting fans and housings, joining cornices, etc.

Give these Screws a trial on your own work. Mail the coupon for free samples.

PARKER-KALON CORPORATION
190 Varick Street, New York, N. Y.

Distributed in Canada by
Aikenhead Hardware, Ltd., 19-21 Temperance St., Toronto

Just two simple operations



FIG. 1
Punch or drill a hole as in Fig. 1; or pierce a hole as in Fig. 2.

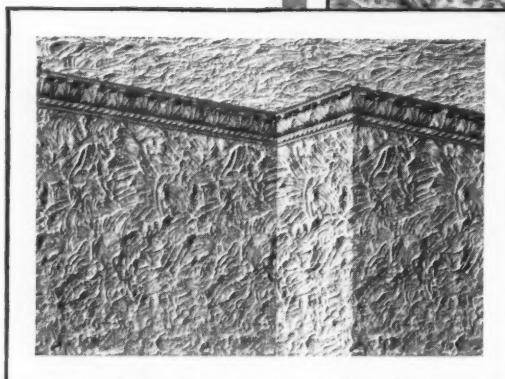
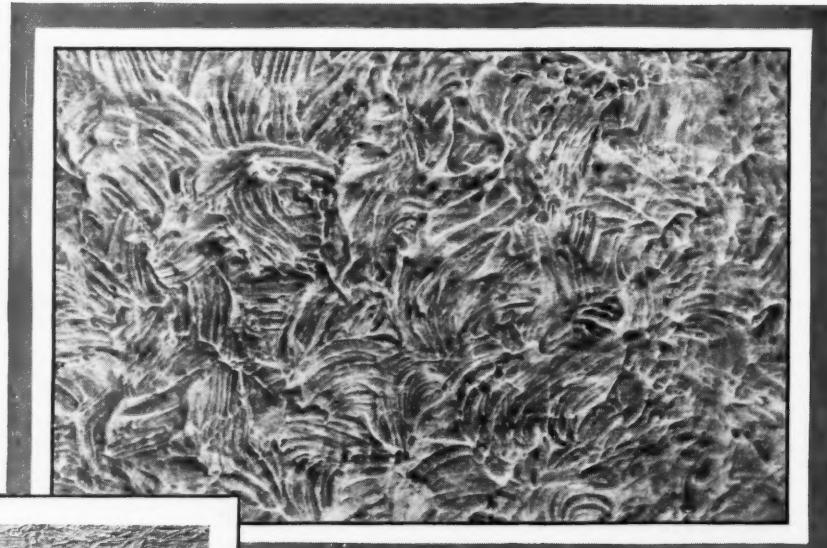


FIG. 2
Turn in the Screw with a screw driver.

PARKER-KALON
HARDENED SELF-TAPPING
Sheet Metal Screws

PATENTED
APR. 1, 1919—No. 1299232 — MAR. 28, 1922—No. 1411184
AUG. 14, 1923—No. 1453448 — FEB. 10, 1925—No. 1526182
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